

SPRINGDALE ESTATES

F-95-163

CLARKSVILLE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

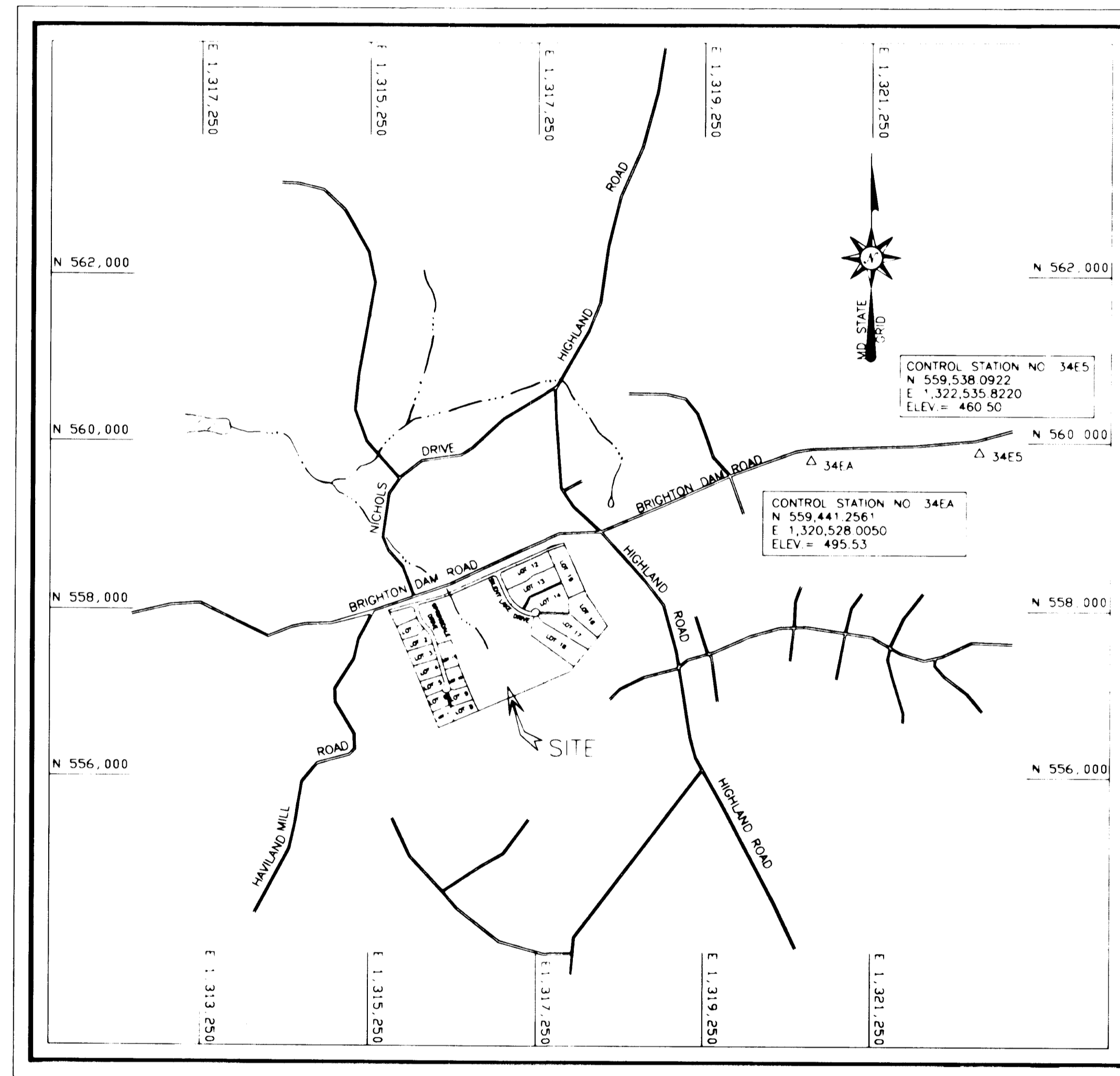
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS *Howard Shih* 4/17/96
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH *Alvin Swannery* 1/19/96
 DATE

CHIEF, DEPARTMENT ENGINEERING DIVISION *Paul Williams* 4/17/96
 DATE

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VICINITY MAP

SCALE: 1" = 1200'

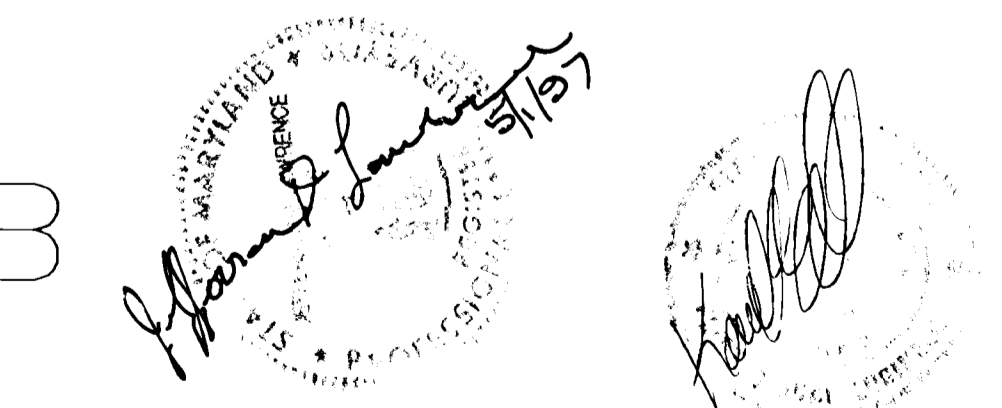
GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
2. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at 410-313-1880 at least five (5) working days prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
4. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
5. Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993).
A minimum spacing of 20' shall be maintained between any street light and any tree.
6. The existing topography is taken from aerial survey with 2'-0" foot contour intervals prepared by P.D.S. dated March 1994.
7. The coordinates shown hereon are based upon Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County monuments #34EA and #34E5 were used for this project.
8. Water is private.
9. Sewer is private.
10. The lots are exempt from stormwater management requirements. Stormwater management for the roads is addressed as follows:
 1. Water Quality - Attained by use of bioretention areas
 2. Water Quantity - Attained by incorporating a control structure into the existing lake
11. There are not any existing utilities on the site, except for electric service to the existing structures.
12. The flood plain study for this project was prepared by O'Connell & Lawrence, Inc. dated January 1995 and approved April 13, 1995.
13. The wetlands delineation study for this project was prepared by Dennis LaBare & Associates, dated December 14, 1993, and was approved April 13, 1995.
14. The traffic study for this project was prepared by Lee Cunningham & Associates, Inc. on November 1993 and was approved March 31, 1995.
15. Subdivision name: Springdale Estates
 Tax Map: 34
 Parcel: 60
 Zoning: RR
 Fifth Election District
 Total area 73.8626 acres
 Number of lots: 18
 Number of Preservation Parcels: 2
 Preliminary Plan approved April 13, 1995
 D.P.Z. #S-94-31, P-95-08, F-95-163
16. Joint Application Permit Numbers:
 Tracking #199561100
 Nontidal Wetland #94-NT-1157
 Water Quality Certification #94-0456

LOTS 1 THRU 18 AND PRESERVATION PARCEL A & B

OWNER/DEVELOPER

HIGHLAND DEVELOPMENT CORP.
 c/o RICHARD J. DEMMITT
 P.O. BOX 228
 CLARKSVILLE, MD 21029
 (410) 531 5539



O'CONNELL & LAWRENCE, INC.
 SURVEYORS, ENGINEERS & LAND PLANNERS
 17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
 Tel: (301) 924-4570 • Fax: (301) 924-5872

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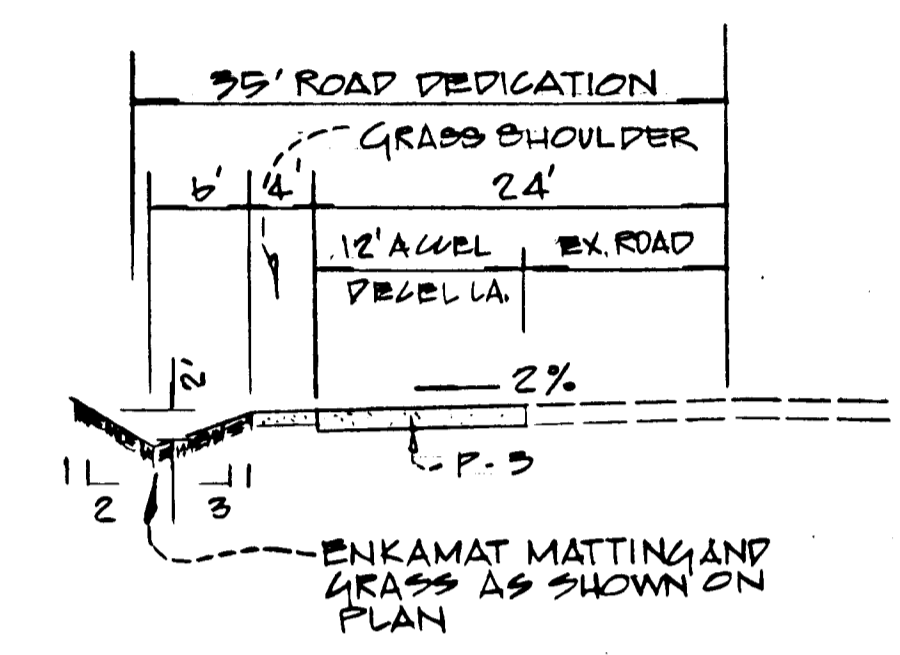
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Howard Shil 1/19/96
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

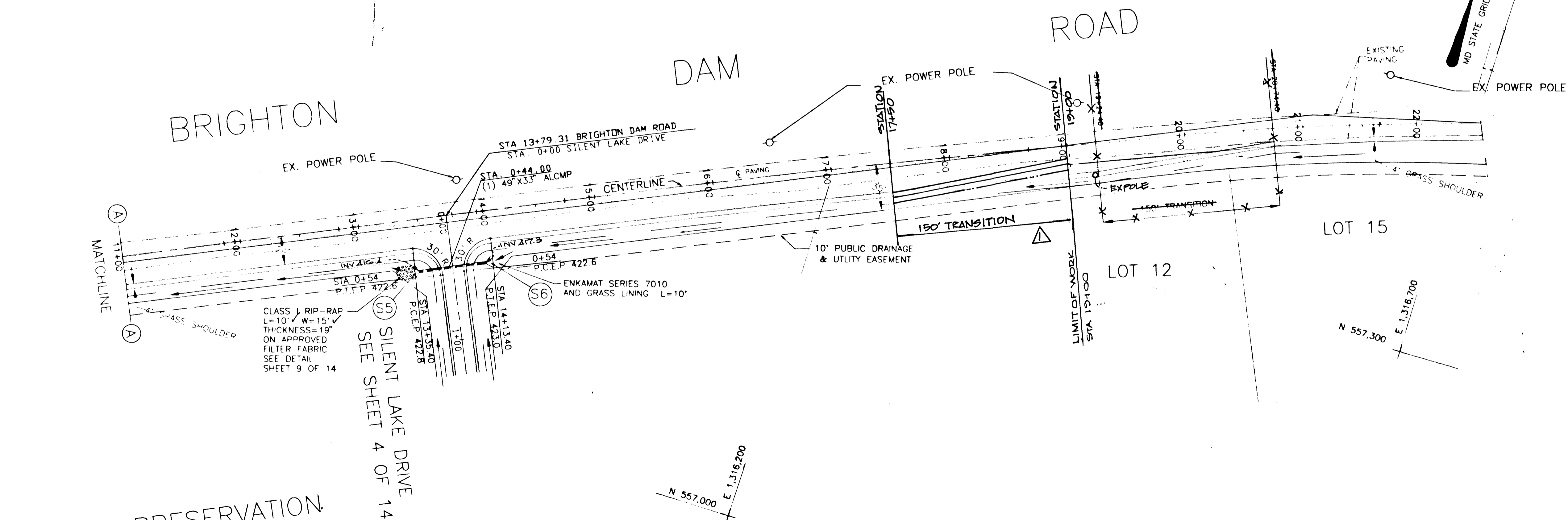
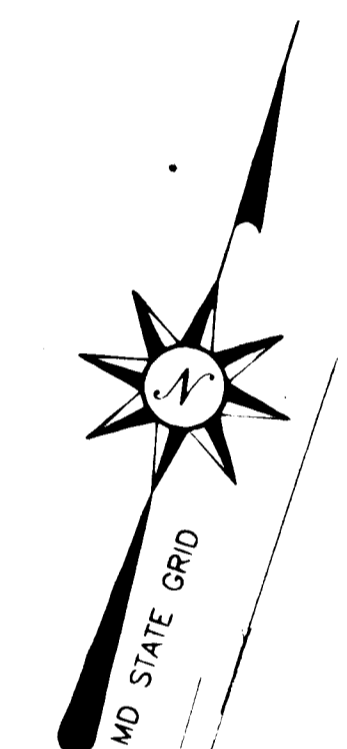
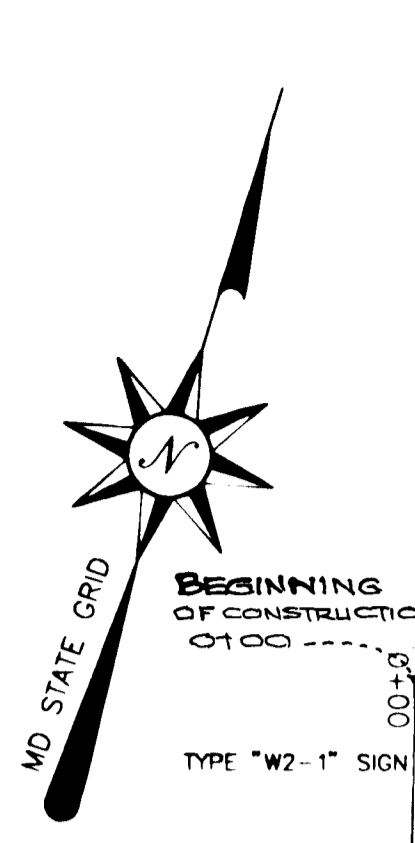
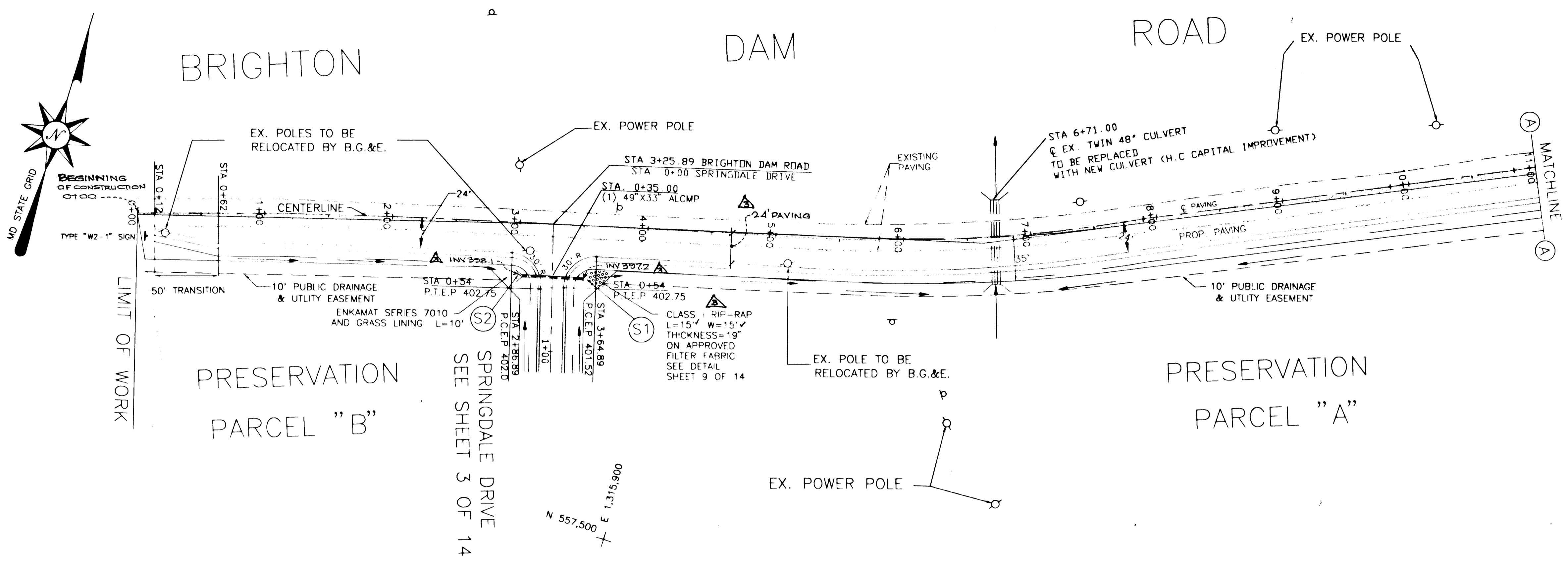
Anna Drummery 1/19/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

Bill Osbourne 1/17/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



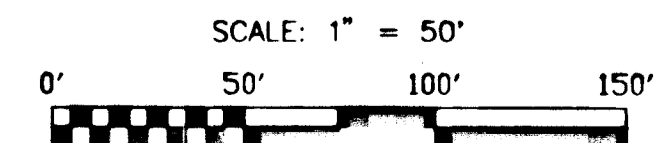
MODIFIED OPEN SECTION
BRIGHTON DAM ROAD
SCALE: 1"=10'

<p>VERTICAL ZONES</p> <p>1 1/2" BIT. CONC. SURFACE</p> <p>1 1/2" BIT. CONC. BASE</p> <p>4" BIT. CONC. BASE</p> <p>5" GRADED AGGREGATE BASE (GAB)</p>	<p>1 1/2" BIT. CONC. SURFACE</p> <p>1 1/2" BIT. CONC. BASE</p> <p>4" BIT. CONC. BASE</p> <p>5" GRADED AGGREGATE BASE (GAB)</p>	<p>1 1/2" BIT. CONC. SURFACE</p> <p>1 1/2" BIT. CONC. BASE</p> <p>4" BIT. CONC. BASE</p> <p>5" GRADED AGGREGATE BASE (GAB)</p>
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PRESERVATION
PARCEL "A"

PLAN



REV NO A AS BUILT ADDED 5/1/97
REV NO B LIMIT OF WORK REVISED TO STA 13+00 4/14/97
REV NO C RELOCATE PAVING & TRANSITION - 6/29/96

SPRINGDALE ESTATES
LOTS 1-18 AND PARCEL "A" & "B"
BRIGHTON DAM ROAD PAVING (GEOMETRY)

STATION 0+00 TO 22+49.90
TAX MAP: 34 GRID 14 PARCEL: 60
5TH ELECTION DISTRICT HOWARD COUNTY, MD.

S 94-31 P-95-08 F-95-163

O'CONNELL & LAWRENCE, INC.
SURVEYORS, ENGINEERS & LAND PLANNERS
17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
Tel: (301) 924-4570 • Fax: (301) 924-5872

DESIGNED BY	DRAWN BY	DATE:	SCALE	PROJECT/JOB NO.	SHEET NO.
HLK	AT	11/1/96	1" = 50'	136-12	2 OF 14

1778

SPRINGDALE ESTATES

F-95-163
 LOTS 1-18 AND PARCEL "A" & "B"
 TAX MAP: 34 GRID 14 PARCEL 60
 5TH ELECTION DISTRICT HOWARD COUNTY, MD.

SPRINGDALE DRIVE
 PLAN, PROFILE AND STORM DRAIN

OWNER AND DEVELOPER
 HIGHLAND DEVELOPMENT CORP.
 c/o RICHARD J. DEMMITT
 P.O. BOX 228
 CLARKSVILLE, MD 21029

SCALE: AS SHOWN DATE: 11-1-95 DWG. NO. 3 OF 14

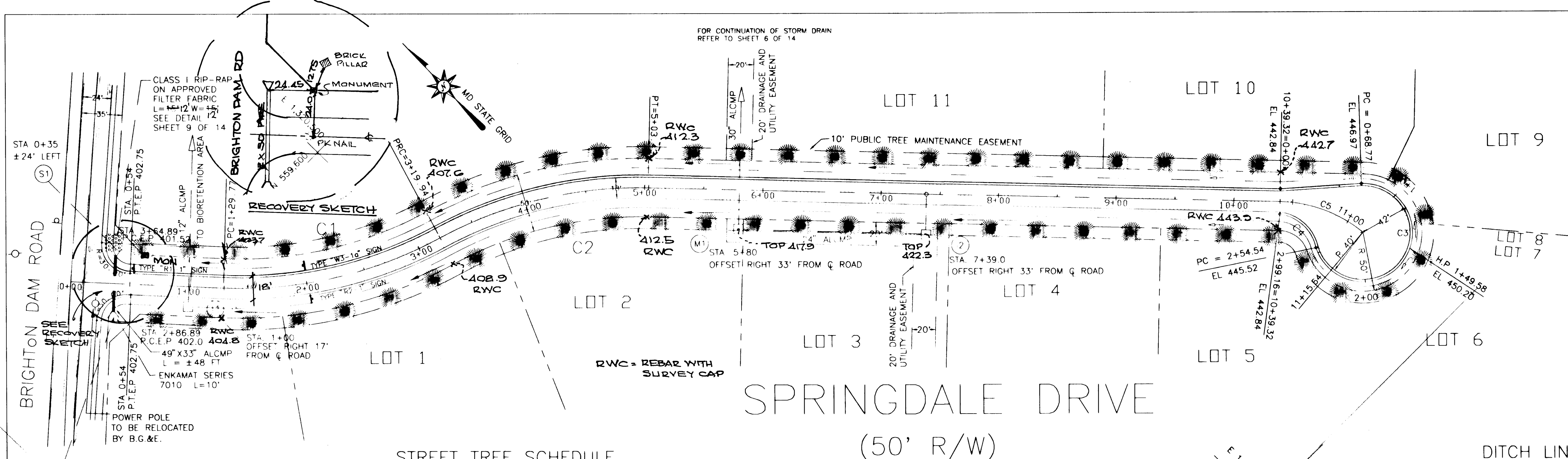
DES. MJK DRN. AT CHK.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard J. Demmitt 11/1/95
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Anna Swannick 11/1/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: *Richard J. Demmitt* 11/1/95
 CHIEF, DIVISION OF ENGINEERING DATE

O'CONNELL & LAWRENCE, INC.
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STREET TREE SCHEDULE

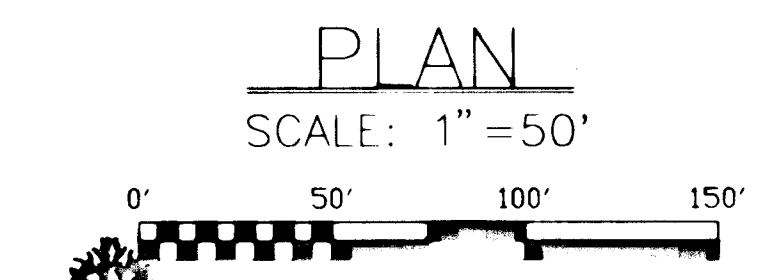
SYMBOL	QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE & ROOT	COMMENTS
	58	QUERCUS COCCINEAS	SCARLET OAK	MIN. 2.5" CALIPER	40' C/C

DITCH LINING SCHEDULE

ROAD	STATION	TREATMENT	MAX Q(10)	MAX V(10)
SPRINGDALE DRIVE	0+00 TO 11+32.83	SOIL STABILIZATION MATTING	9.4 CFS	4.3 FPS
		MATting OVER SEED & MULCH		

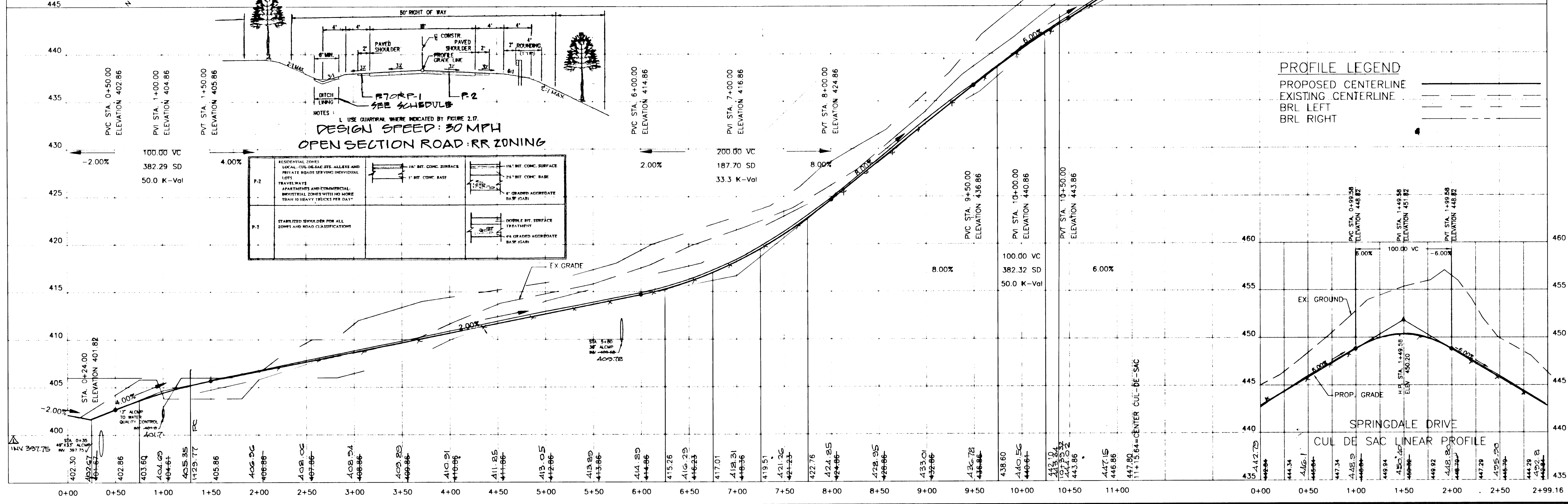
ROAD CURVE DATA

CURVE #	RADIUS	LENGTH	CHORD	CHORD BEARING	DELTA ANGLE
C1	350.00'	190.16'	187.83'	S 16°22'13" E	31°07'48"
C2	350.00'	183.49'	181.40'	S 16°22'13" E	30°02'19"
C3	42.00'	183.76'	68.52'	S 136°25'07" E	25°04'59"
C4	36.00'	44.62'	40.17'	S 159°09'18" E	67°49'54"
C5	113.16'	76.32'	74.89'	S 69°15'38" E	38°38'41"



A AS BUILT INFO ADDED 5/11/97
 REVISIONS

Richard J. Demmitt 5/11/97
Richard J. Demmitt



OPEN SECTION ROAD: RR ZONING

Zone	Description	Surface	Base
P-2	RESIDENTIAL ZONES: LOCAL, CUL-DE-SAC, ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVELERS APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	1 1/2" BIT CONC. SURFACE	7 1/2" BIT CONC. BASE
P-3	STABILIZED SHOULDER FOR ALL ZONES AND ROAD CLASSIFICATIONS	DOUBLE BIT. SURFACE TREATMENT	1 1/2" GRADED AGGREGATE BASE (GAB)

PROFILE LEGEND

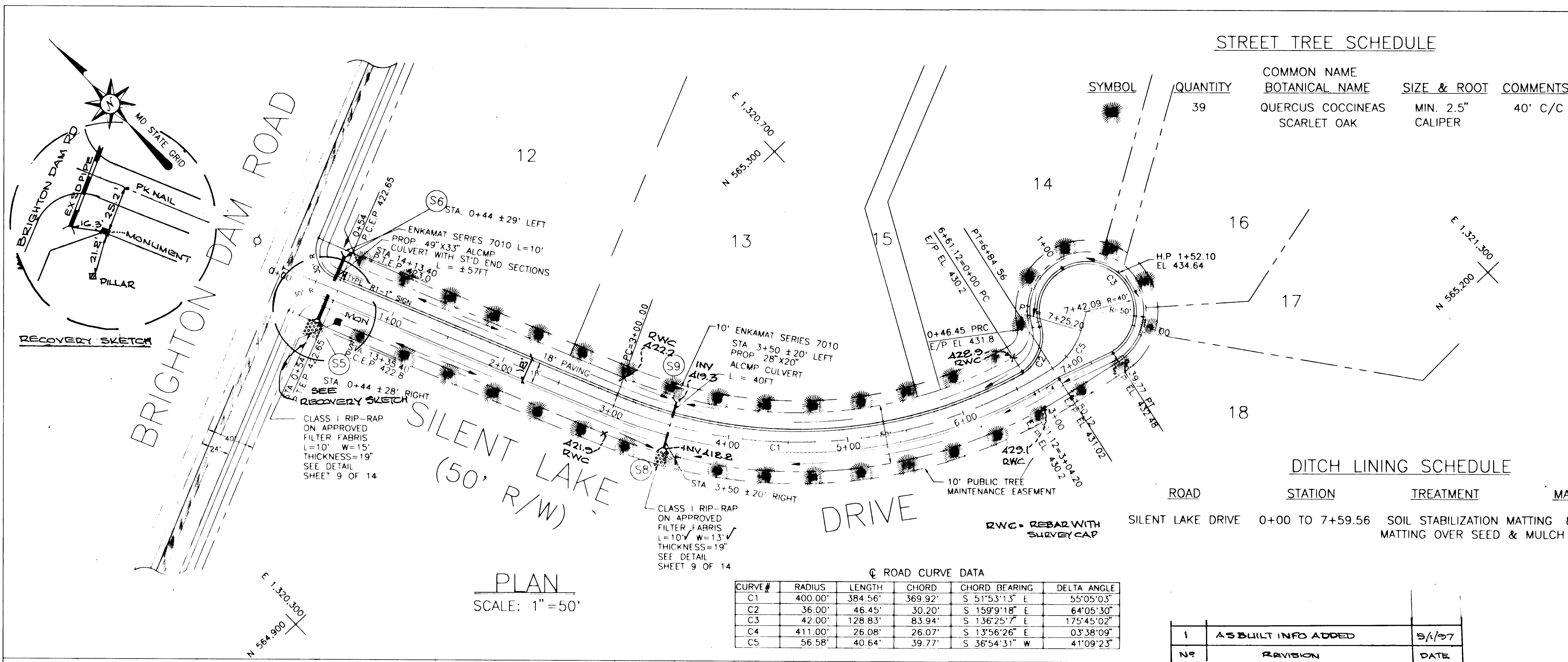
PROPOSED CENTERLINE

EXISTING CENTERLINE

BRL LEFT

BRL RIGHT

1718



SPRINGDALE ESTATES
F-95-163
LOTS 1-18 AND PARCEL "A" & "B"
TAX MAP: 34 GRID 14 PARCEL: 60
5TH ELECTION DISTRICT HOWARD COUNTY, MD.

SILENT LAKE DRIVE
PLAN, PROFILE AND STORM DRAIN

OWNER AND DEVELOPER
HIGHLAND DEVELOPMENT CORP.
c/o RICHARD J. DEMMITT
P.O. BOX 228
CLARKSVILLE, MD 21029

SCALE: AS SHOWN DATE: 11-1-95 DWG. NO. 4 OF 14
DES. MJK DRN. AT CHK.

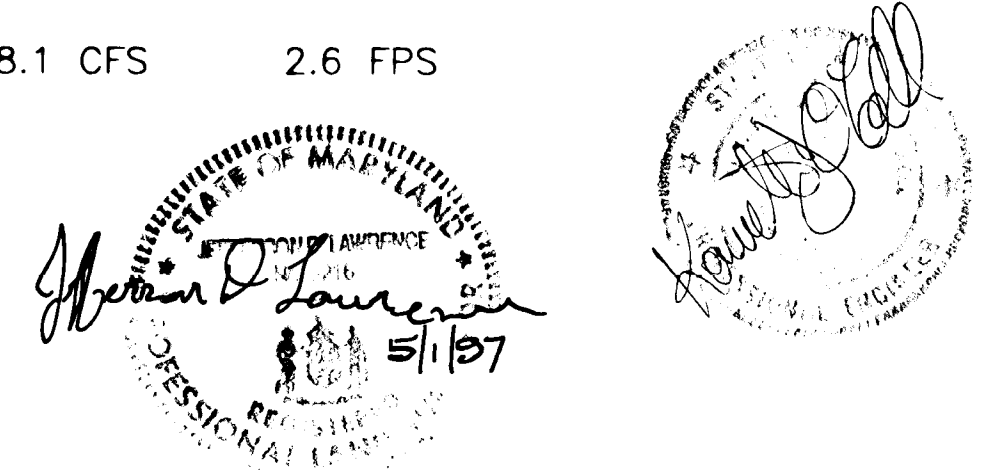
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS *Howard Shick* 11/1/96 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH *Jim Summers* 11/9/96 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION *John Summers* 11/17/96 DATE

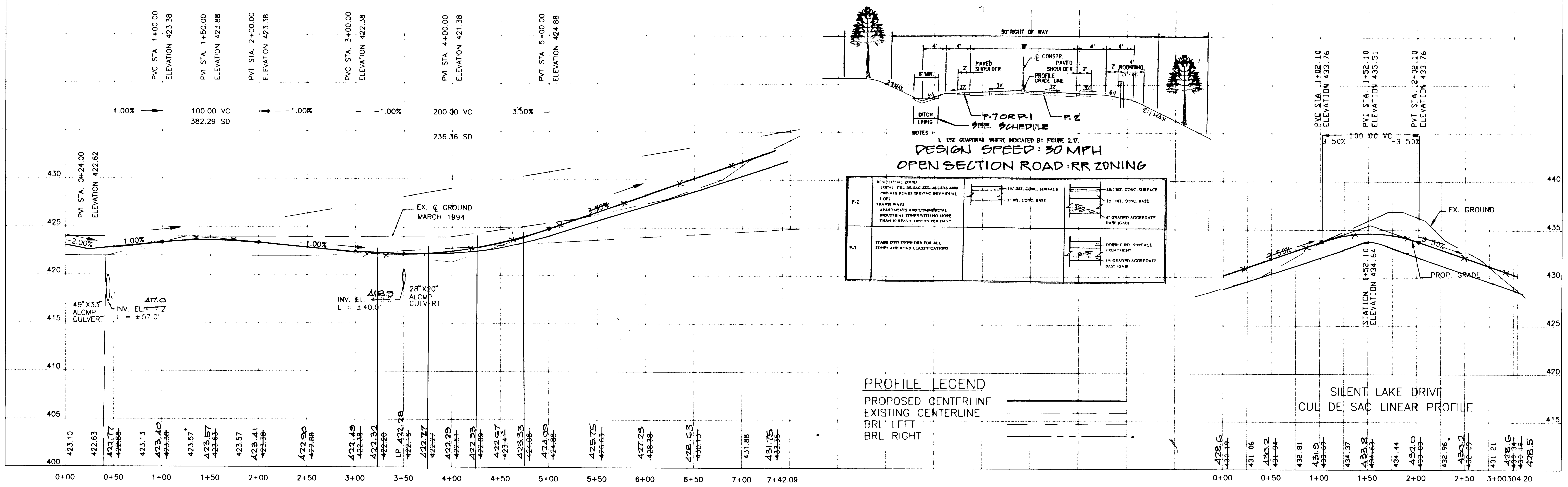
O'CONNELL & LAWRENCE, INC.
SURVEYORS, ENGINEERS & LAND PLANNERS
17904 Georgia Avenue, Suite 302, Olney, Maryland 20852
Tel: (301) 924-4570 Fax: (301) 924-5872

DITCH LINING SCHEDULE

ROAD	STATION	TREATMENT	MAX Q(10)	MAX V(10)
SILENT LAKE DRIVE	0+00 TO 7+59.56	SOIL STABILIZATION MATTING MATTING OVER SEED & MULCH	8.1 CFS	2.6 FPS



NO	REVISION	DATE
1	AS BUILT INFO ADDED	5/1/97



1778

BRIGHTON DAM ROAD
STREET TREE SCHEDULE

SYMBOL	COMMON NAME BOTANICAL NAME	SIZE & ROOT	COMMENTS
+	QUERCUS COCCINEAS SCARLET OAK	MIN 2.5' CAUPER B&B	40'C/C DN PUBLIC R/W

TOTAL NO OF TREES = 3

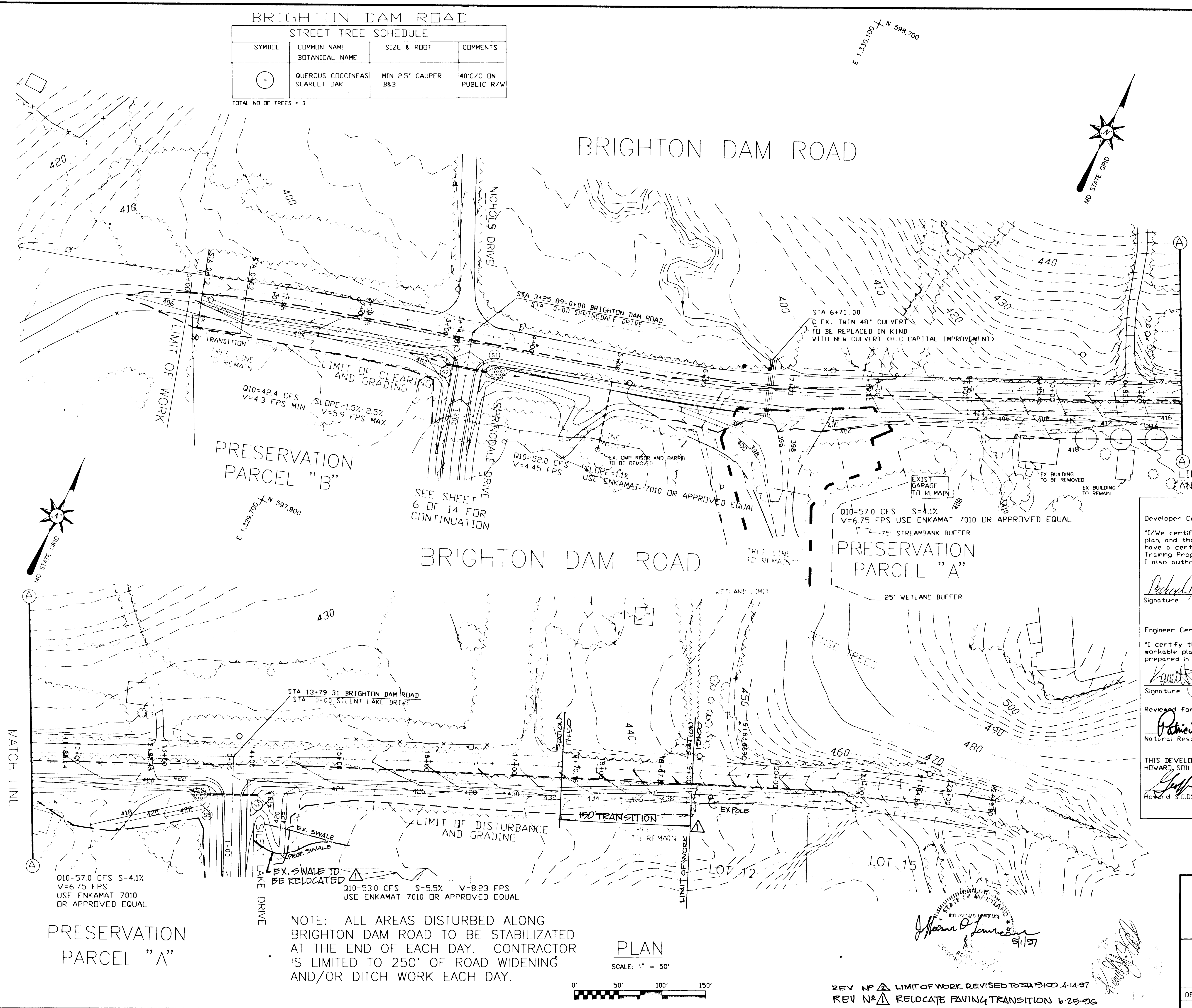
BRIGHTON DAM ROAD

OWNER AND DEVELOPER
HIGHLAND DEVELOPMENT CORP.
c/o RICHARD J. DEMMITT
P.O. BOX 228
CLARKSVILLE, MD 21029

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard Shick 1/2/96
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John Stronoff 1/19/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

Mark Lawrence 1/17/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



SEDIMENT CONTROL

Developer Certification:
 'I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.'

Richard Demmitt 11/08/95
Signature Date

Engineer Certification:
 'I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Conservation District.'

Kevin J. Gall 11/07/95
Signature Date

Reviewed for HOWARD S.C.D. and meets Technical Requirements
Patricia Eng 1/2/96
Natural Resources Conservation Service Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
John Selig 1/2/96
Howard S.C.D. Date

SPRINGDALE ESTATES
LOTS 1-18 AND PARCEL "A" & "B"
BRIGHTON DAM ROAD
GRADING AND SEDIMENT CONTROL PLAN

TAX MAP: 34 GRID 14 PARCEL: 60
5TH ELECTION DISTRICT HOWARD COUNTY, MD. F-95-163

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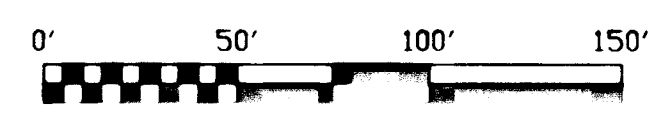
DESIGNED	DRAWN	DATE	SCALE	PROJECT NO.	DWG. NO.
MJK	AT	11/1/95	1"=50'	136-12	5 OF 14

1771

NOTE: ALL AREAS DISTURBED ALONG BRIGHTON DAM ROAD TO BE STABILIZED AT THE END OF EACH DAY. CONTRACTOR IS LIMITED TO 250' OF ROAD WIDENING AND/OR DITCH WORK EACH DAY.

PLAN

SCALE: 1" = 50'



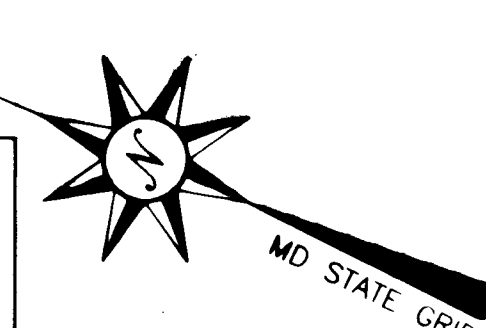
REV NO 1 LIMIT OF WORK REVISED TO STA 13+00 1-14-97
 REV NO 2 RELOCATE PAVING TRANSITION 6-25-96

STA 6+71.00
 EX. TWIN 48" CULVERT TO BE REPLACED
 WITH NEW CULVERT (H.C. CAPITAL IMPROVEMENT)

GENERAL LANDSCAPING NOTE

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 3 LANDSCAPE TREES, IN THE AMOUNT OF \$300.00 IS PART OF THE DEVELOPER'S AGREEMENT."

PLAN GRADING FOR BIORETENTION AREA AFTER SEDIMENT TRAP REMOVAL

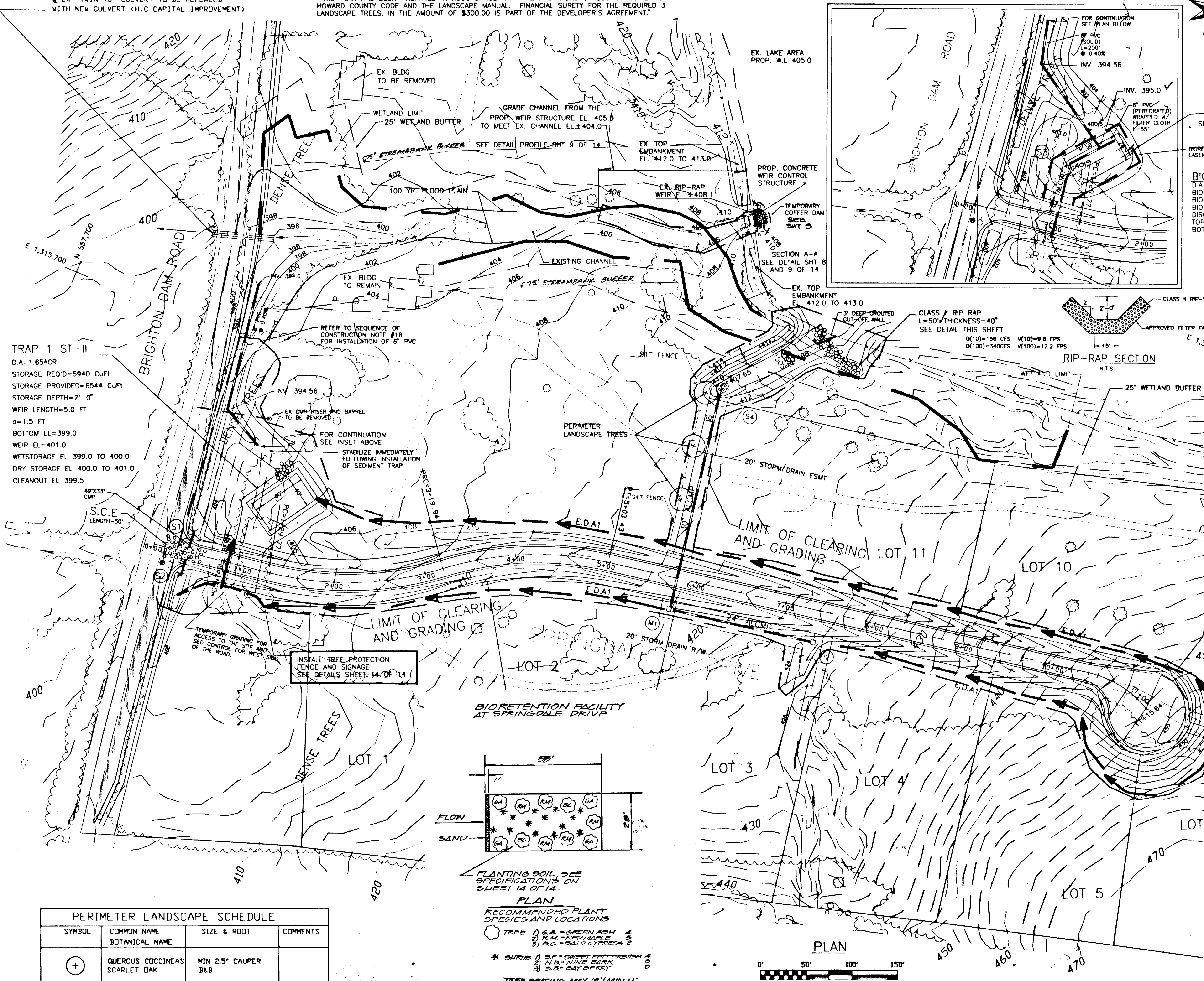


SPRINGDALE DRIVE
 GRADING AND SEDIMENT CONTROL PLAN

OWNER AND DEVELOPER
 HIGHLAND DEVELOPMENT CORP.
 c/o RICHARD J. DEMMITT
 P.O. BOX 228
 CLARKSVILLE, MD 21029

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard S. Holt 1/5/96
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Jim Williams 1/17/96
 CHIEF, DIVISION OF ROAD DEVELOPMENT AND RESEARCH DATE
William J. Lawrence 1/17/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

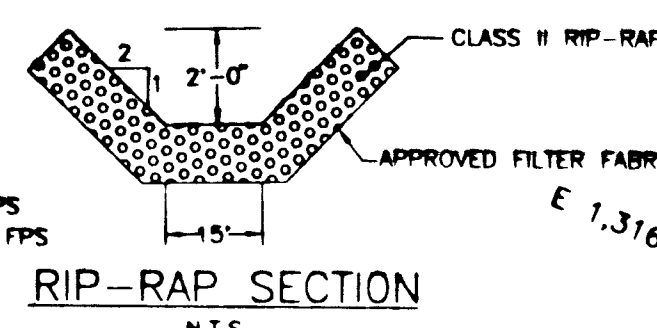
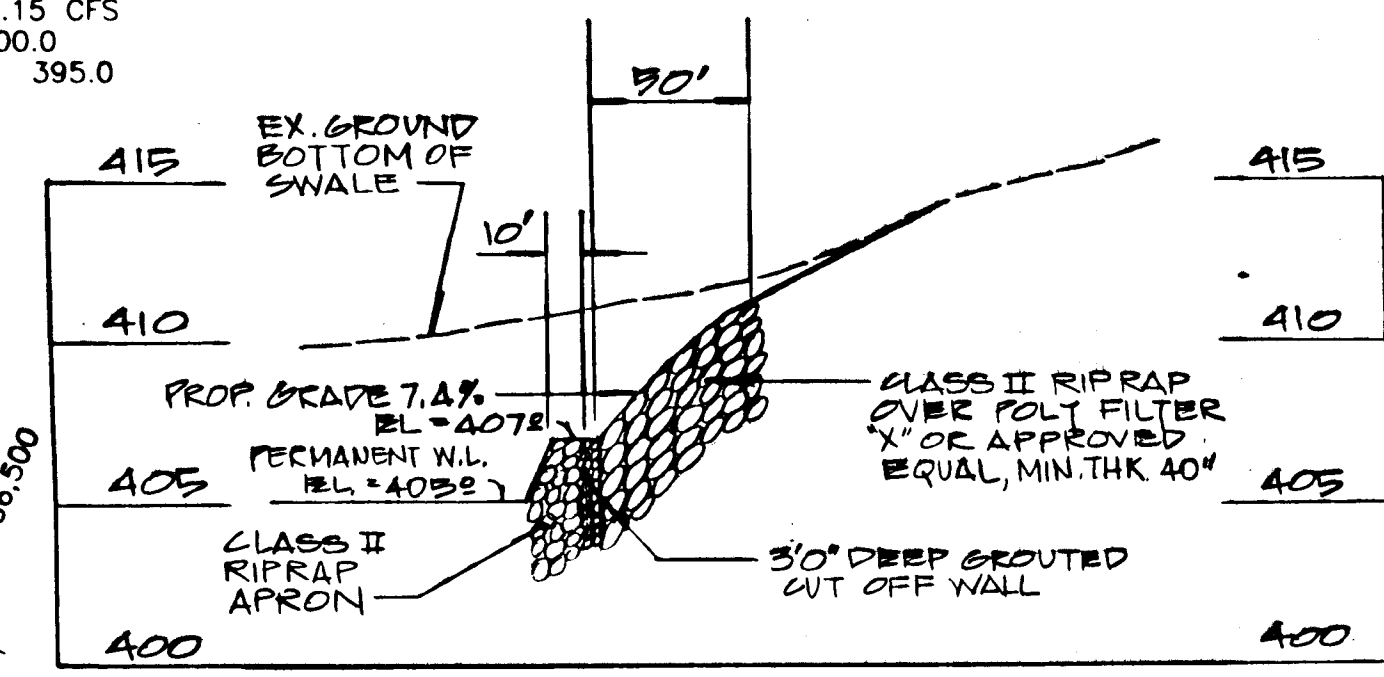


BIORETENTION AREA
 SEE LANDSCAPING DETAILS BELOW

BIORETENTION AREA EASEMENT

BIORETENTION AREA SUMMARY TABLE

D.A. = 1.38 AC
 BIORETENTION AREA REQUIRED: 1612 S.F.
 BIORETENTION AREA PROVIDED: 1624 S.F.
 BIORETENTION AREA SIZE: 58' x 28'
 DISCHARGE: 0.15 CFS
 TOP ELEV.: 400.0
 BOTTOM ELEV.: 395.0



TRAP 1 ST-II
 D.A. = 1.65 AC
 STORAGE REQ'D = 5940 Cuft
 STORAGE PROVIDED = 6544 Cuft
 STORAGE DEPTH = 2'-0"
 WEIR LENGTH = 5.0 FT
 α = 1.5 FT
 BOTTOM EL. = 399.0
 WEIR EL. = 401.0
 WET STORAGE EL. 399.0 TO 400.0
 DRY STORAGE EL. 400.0 TO 401.0
 CLEANOUT EL. 399.5

SEDIMENT CONTROL

Developer Certification:
 "I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."
Richard J. Demmitt Nov 8, 1995
 Signature Date

Engineer Certification:
 "I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Conservation District."
William J. Lawrence Nov 7, 1995
 Signature Date

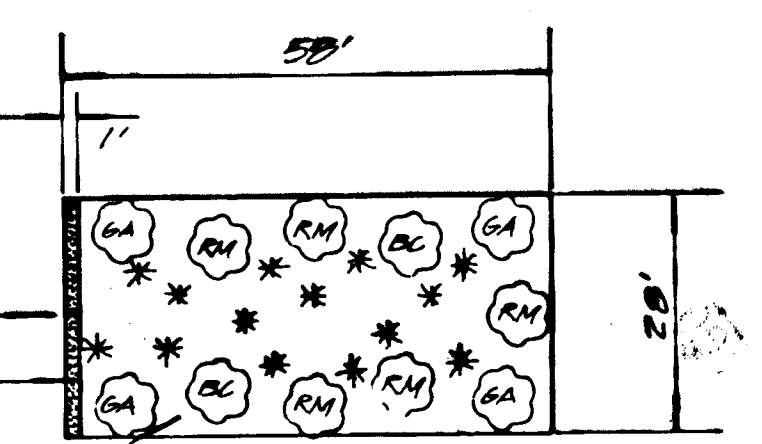
Reviewed for HOWARD S.C.D. and meets Technical Requirements
Patricia Leigh 1/2/96
 Natural Resources Conservation Service Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
John S. Holt 1/2/96
 Howard S.C.D. Date

PERIMETER LANDSCAPE SCHEDULE

SYMBOL	COMMON NAME BOTANICAL NAME	SIZE & ROOT	COMMENTS
+	QUERCUS COCCINEAS SCARLET OAK	MIN 2.5" CAUPER B&B	

TOTAL NO OF TREES = 3



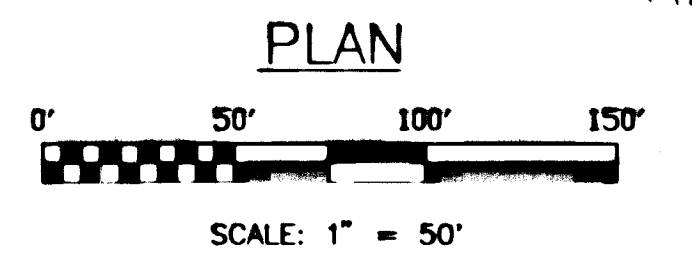
PLANTING SOIL SEE SPECIFICATIONS ON SHEET 14 OF 14.

PLAN
 RECOMMENDED PLANT SPECIES AND LOCATIONS

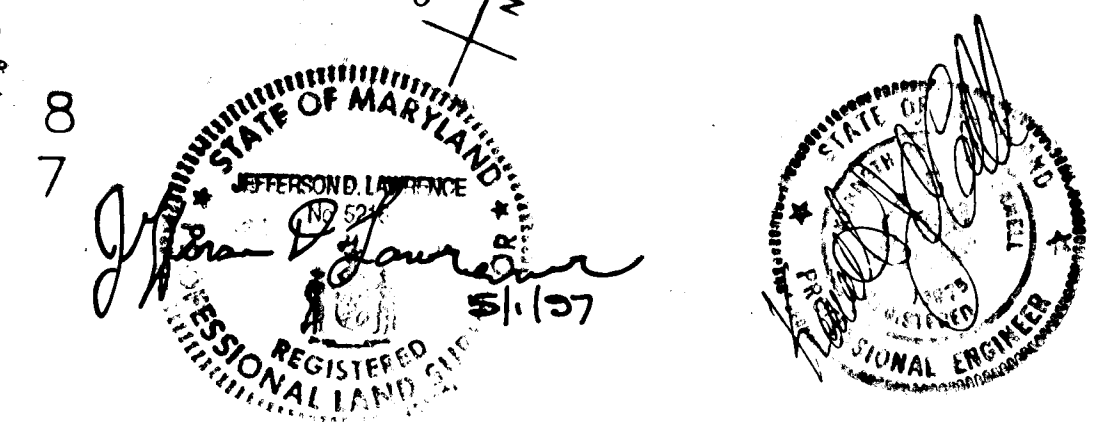
TREE 1) GA - GREEN ASH 4
 2) RM - RED MAPLE 2
 3) CB - BALD CYPRESS 2

* SHRUB 1) SF - SHEET PETERDWARF 4
 2) NB - NINE BARKS 2
 3) SB - SWEET GUM 2

TREE SPACING MAX. 10' / MIN. 11'
 SHRUB SPACING MAX. 12' / MIN. 7'



DESIGNED BY	DRAWN BY	DATE	SCALE	PROJECT/JOB NO.	SHEET NO.
M.K.	AT	11/1/95	1" = 50'	136-12	6 OF 14



SPRINGDALE ESTATES
 LOTS 1-18 AND PARCEL "A" & "B"
SPRINGDALE DRIVE
 GRADING, SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLAN
 TAX MAP: 34 GRID 14 PARCEL: 80
 5TH ELECTION DISTRICT HOWARD COUNTY, MD. F-95-163

O'CONNELL & LAWRENCE, INC.
 SURVEYORS, ENGINEERS & LAND PLANNERS
 17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
 Tel: (301) 924-4570 Fax: (301) 924-5872

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SILENT LAKE DRIVE
GRADING AND SEDIMENT CONTROL PLAN

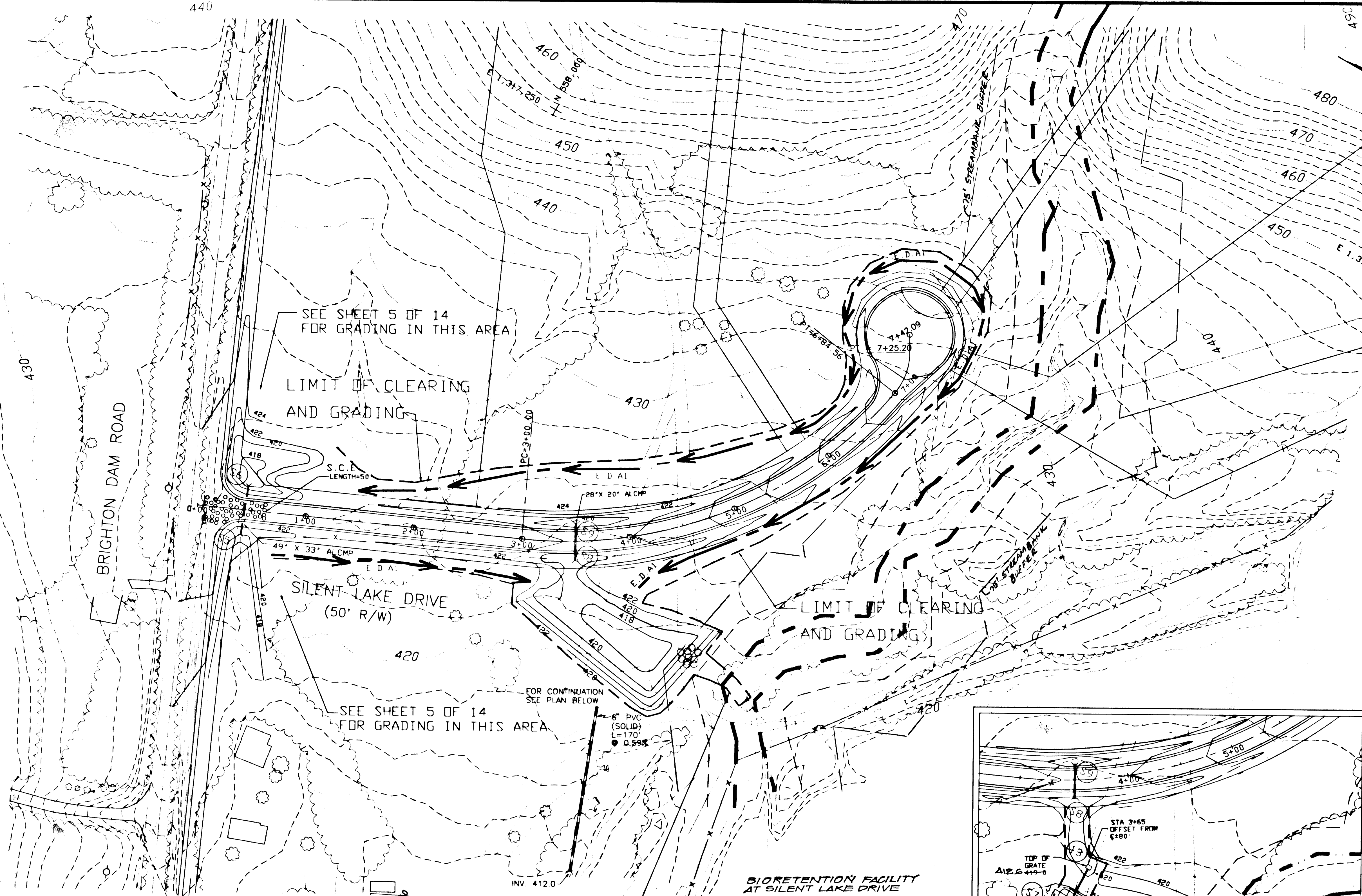
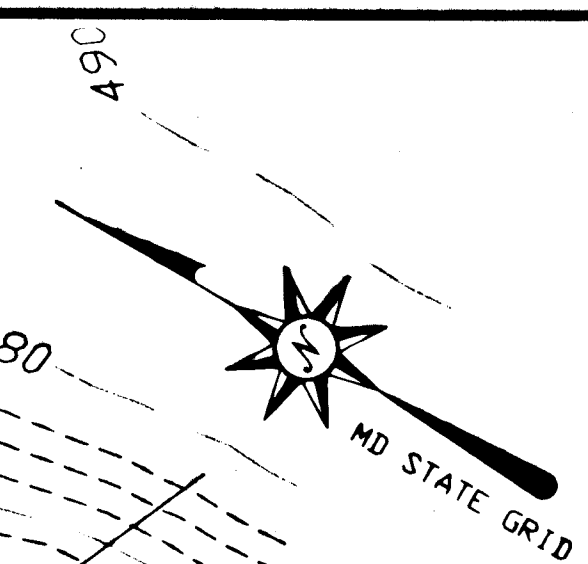
OWNER AND DEVELOPER
HIGHLAND DEVELOPMENT CORP.
c/o RICHARD J. DEMMITT
P.O. BOX 228
CLARKSVILLE, MD 21029

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Howard Shickler 1/17/96
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John Swinnerton 1/19/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE
Mark Summers 1/17/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



SEDIMENT CONTROL

Developer Certification:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Richard Demmitt, Resident Nov. 8, 1995
Signature Date

Engineer Certification:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Conservation District."

Kevin J. Kelly Nov. 7, 1995
Signature Date

Reviewed for HOWARD S.C.D. and meets Technical Requirements

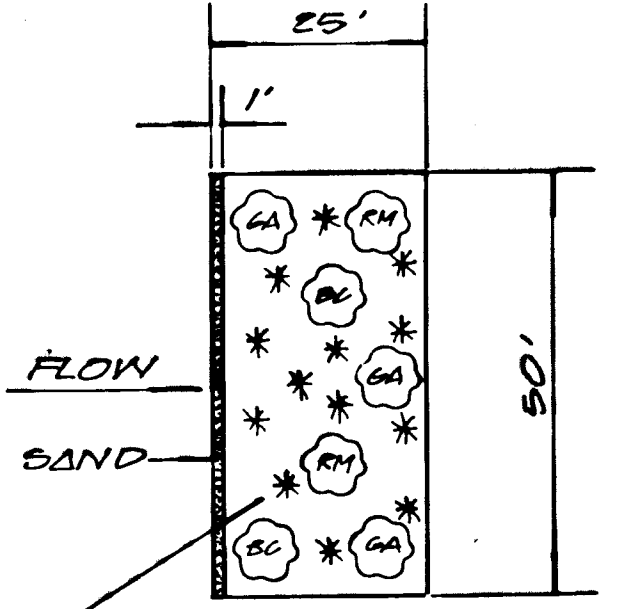
Patricia Eng 1/2/96
Natural Resource Conservation Service Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

John J. Kelly 1/2/96
Howard S.C.D. Date

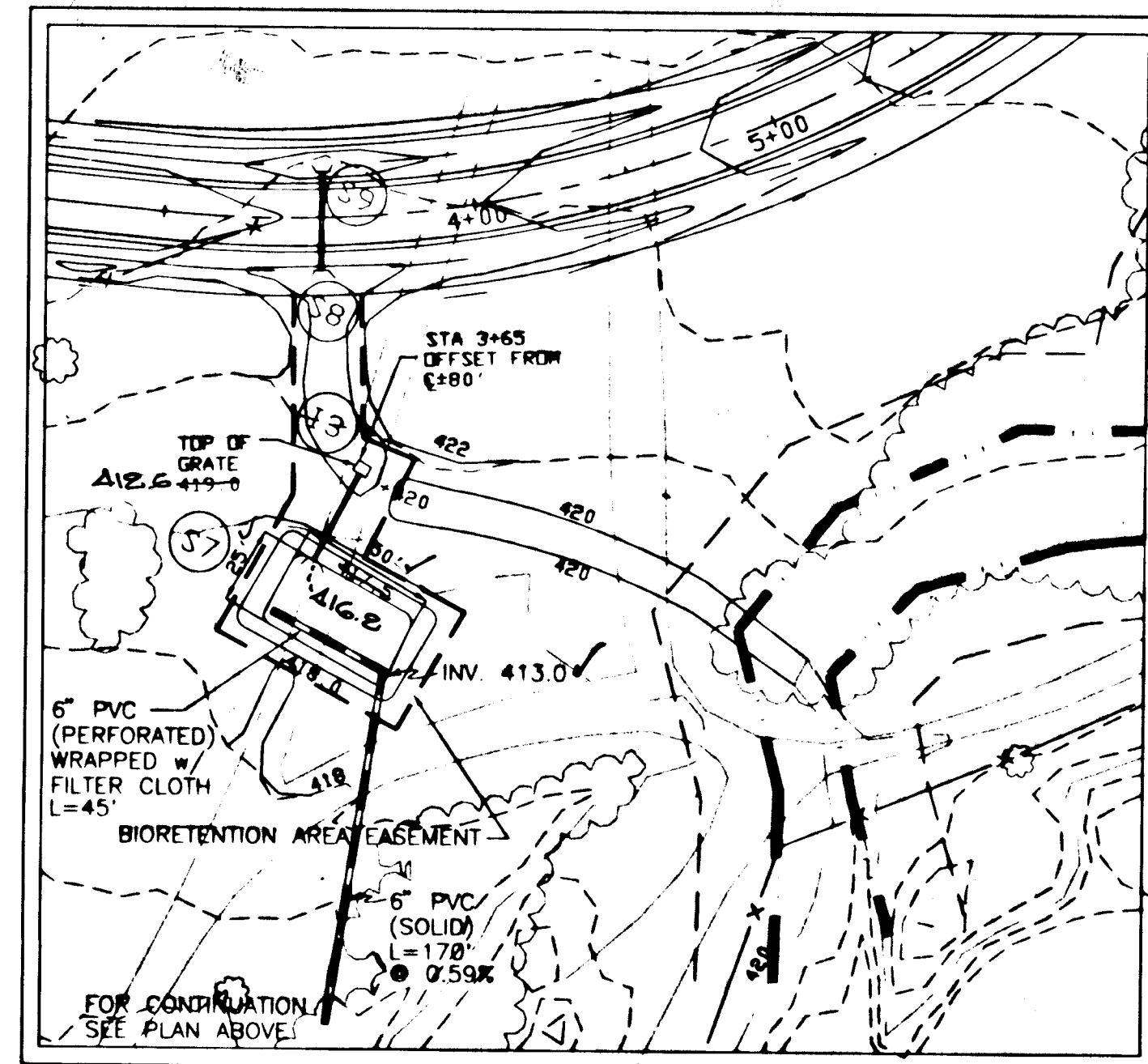
SEDIMENT TRAP #2 S.T. II STONE OUTLET TRAP
D.A. = 1.5 ACR
VOL REQ'D = 5900 CUFT
VOL PROVIDED = 7000 CUFT
WET STORAGE = 2825 CUFT BETWEEN EL 418 TO 419
DRY STORAGE EL 419 TO 420.0
WEIR EL 421.0
WEIR LENGTH 5'-0"

BIORETENTION FACILITY AT SILENT LAKE DRIVE



PLANTING SOIL SEE SPECIFICATIONS ON SHEET 1A OF 1A.

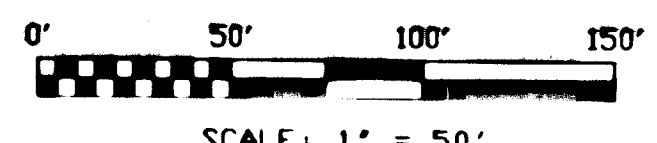
- RECOMMENDED PLANT SPECIES AND LOCATIONS
- TREE 1) G.A. - GREENASH 3
2) R.M. - RED MAPLE 2
3) B.C. - BALD CYPRESS 2
- * SHRUB 1) S.P. - SWEET PETERBUSH 4
2) N.B. - NINE BARK 4
3) S.O. - SAGE OLEANDER 2
- TREE SPACING MAX. 10' / MIN. 11'
SHRUB SPACING MAX. 12' / MIN. 7'



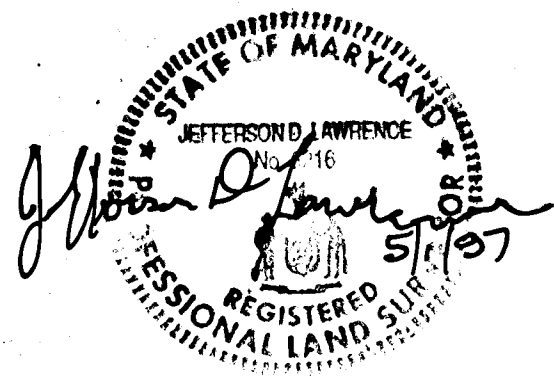
BIORETENTION AREA SUMMARY TABLE

D.A. = 0.90 AC
BIORETENTION AREA REQUIRED: 1072 S.F.
BIORETENTION AREA PROVIDED: 1250 S.F.
BIORETENTION AREA SIZE: 50' x 25'
DISCHARGE: 0.21 CFS
TOP ELEV.: 417.0
BOTTOM ELEV.: 412.0

PLAN



1	ASBUILT INFO ADDED	2/1/97
NO	REVISION	DATE



SPRINGDALE ESTATES
LOTS 1-18 AND PARCEL "A" & "B"
SILENT LAKE DRIVE
GRADING, SEDIMENT CONTROL AND WATER QUALITY CONTROL PLAN

TAX MAP: 34 GRD 14 PARCEL: 80
5TH ELECTION DISTRICT HOWARD COUNTY, MD. F-95-163

O'CONNELL & LAWRENCE, INC.
SURVEYORS, ENGINEERS & LAND PLANNERS
17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
Tel: (301) 924-4570 • Fax: (301) 924-5872

DESIGNED BY	DRAWN BY	DATE	SCALE	PROJECT/JOB NO.	SHEET NO.
MJK	AT	11/1/96	1" = 50'	156-12	7 OF 14

1778

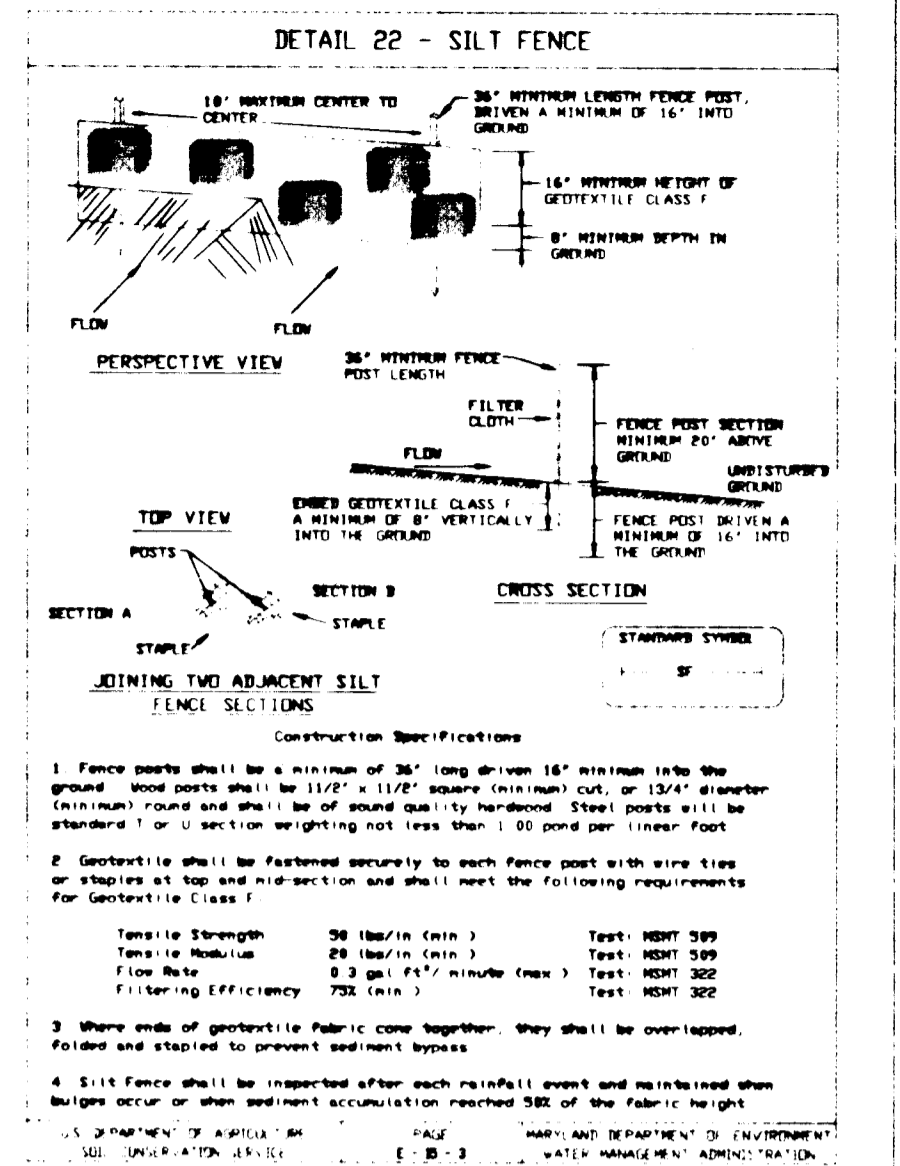
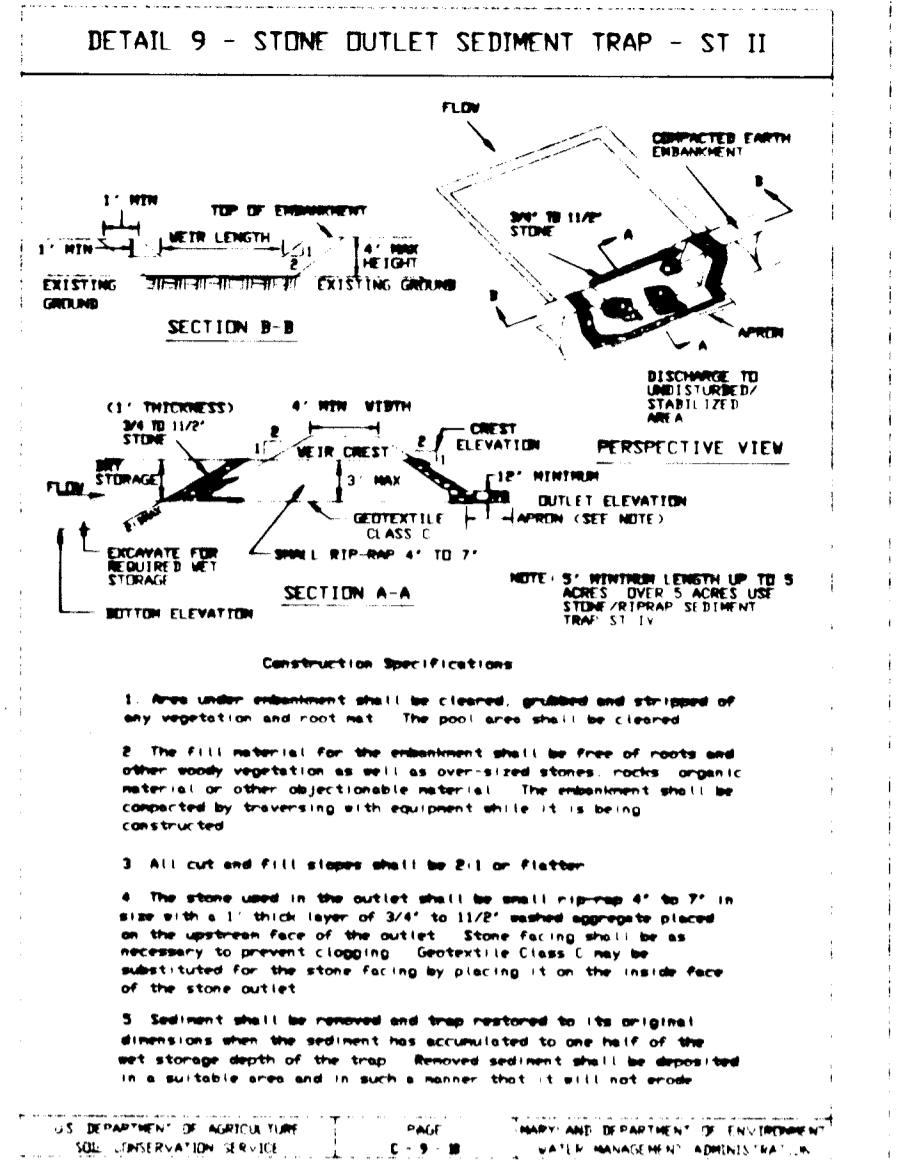
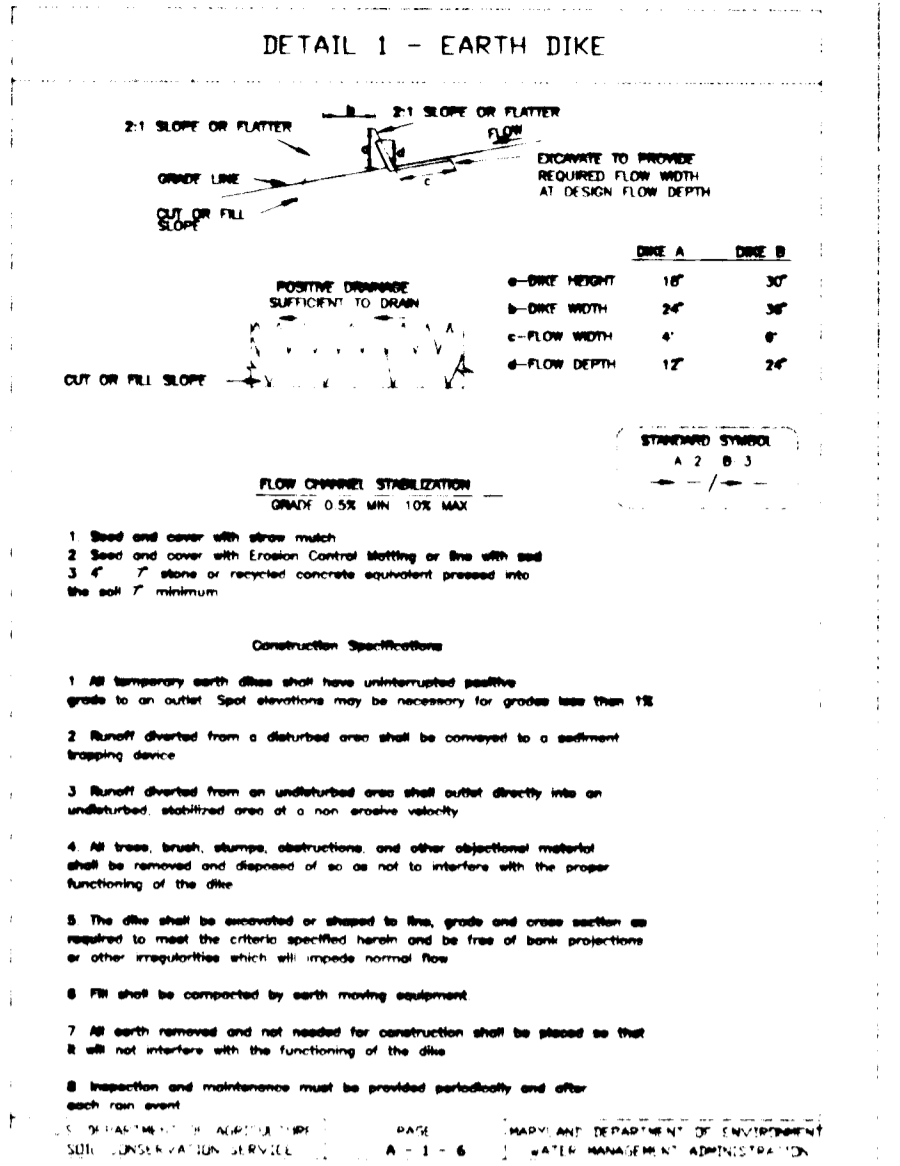
OWNER AND DEVELOPER
HIGHLAND DEVELOPMENT CORP.
c/o RICHARD J. DEMMITT
P.O. BOX 228
CLARKSVILLE, MD 21029

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature: Howard J. Demmitt
CHIEF, BUREAU OF HIGHWAYS
DATE: 1/17/96

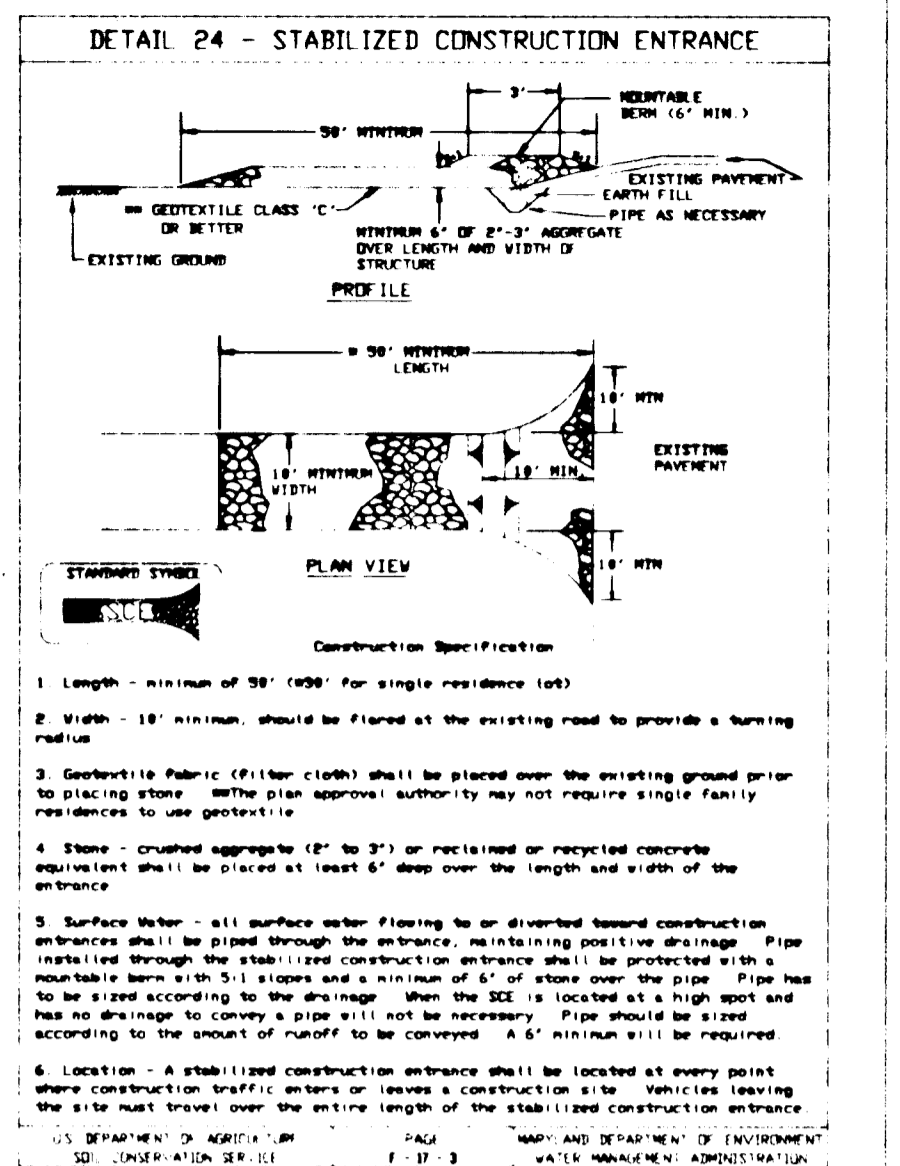
APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: Gina Summons
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
DATE: 1/17/96
Signature: [unclear]
CHIEF, DEPARTMENT OF ENGINEERING DIVISION
DATE: 1/17/96



SILT FENCE

Slope	Filter Cloth	Silt Fence Length
3:1 to 4:1	180 Feet	1,000 Feet
4:1 to 5:1	180 Feet	750 Feet
5:1 to 6:1	180 Feet	500 Feet
6:1 to 7:1	180 Feet	250 Feet
7:1 and steeper	180 Feet	150 Feet



HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeded Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
1. Preferred--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. Acceptable--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March 1 - April 30, and August 1 - October 15, seed with 60 lbs/acre (14 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 - July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 - February 28, protect site by Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 - Use sod. Option 3 - Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseeding.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seeded preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding - For periods March 1 - April 30 and from August 15 - October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 - February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 ft. or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for anchoring.

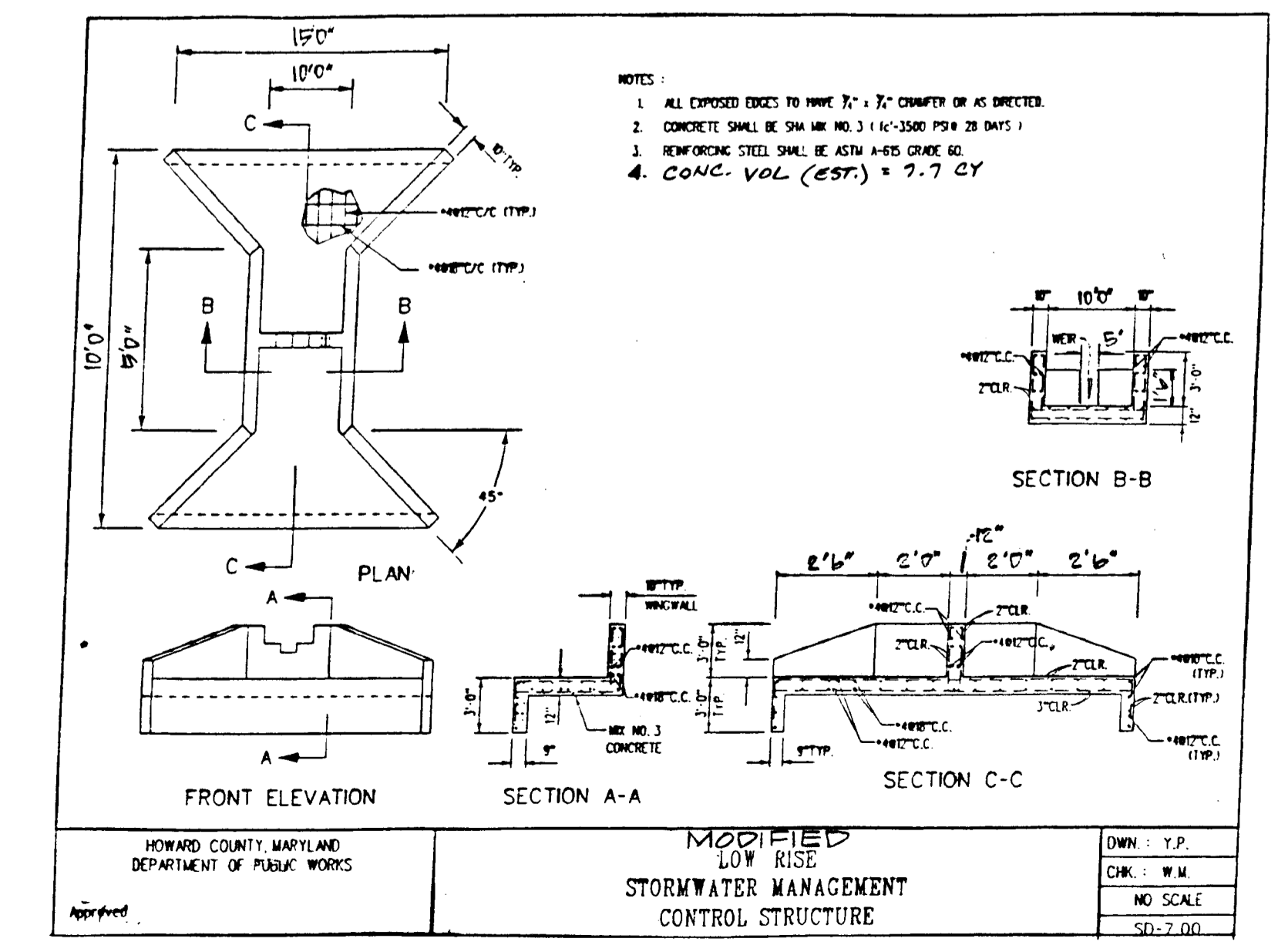
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for addition rates and methods not covered.

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections Licenses and Permits, Sediment Control Division prior to the start of any construction, (313-1855).
- All vegetative and structural practices are to be installed according to the provision on this plan and are to be in conformance with the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
- Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed with: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
Total Area of Site: 73.0626 Acres
Area Disturbed: 7.1 Acres
Area to be roofed or paved: 1.75 Acres
Area to be vegetatively stabilized: 5.35 Acres
Total Cut: 2,315 Cubic Yards
Total Fill: 1,140 Cubic Yards
Offsite waste/borrow area location: N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agent shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.

SEQUENCE OF CONSTRUCTION

- Obtain grading permit.
 - Notify Miss Utility 48 hours before beginning any work at 1-800-257-7777.
 - Notify Howard County Office of Construction/Inspection Division at 410-313-1880 five (5) working days before starting any work.
 - Install all traffic control devices on Brighton Dam Road and tree protective devices, as required. 2 Days
 - Start lowering water level of the lake from elevation 408.0 to 405.0, in increments of approximately 2" - 3". 2 Months
 - Install all earth dikes, in order to divert the offsite drainage area from the proposed sediment traps. 1 Week
 - On Springdale Drive, grade the outfall below S4, and stabilize slopes as soon as the grading is finished. Install Sediment Trap #1 as shown and stabilized grading area. 3 Weeks
 - As soon as the outfall below S4 is stabilized, install pipes and storm drain structures from I2 to S4 to insure the drainage of the offsite area to the lake. 2 Weeks
 - After Trap #1 is stabilized, start clearing Springdale Road area up to station 5+50 and start grading. Continue Springdale Road up to the end after drainage pipes are installed. 4 Weeks
 - Install temporary coffer dam to prevent lake base flow during outfall structure construction. 2 Weeks
 - Build concrete weir and grade outfall from elevation 405.0 to intersect existing swale. 2 Weeks
 - Install sediment trap #2 and stabilize slopes. 2 Weeks
 - Clear and grade along Brighton Dam Road (limited to 250' of road widening and/or ditch work each day). Stabilize work area at the end of each day. 2 Weeks
 - Grade Silent Lake Drive and stabilize all the slopes. 4 Weeks
 - Install all culverts and storm drain, block inlets and pipes which will divert water to the bioretention pit. 2 Weeks
 - Pave all roadways. 2 Weeks
 - After entire disturbed area is stabilized, flush all storm drain pipes and remove all the sediment control devices after approval of Howard County Sediment Control Inspector. 1 Week
 - Excavate pit for the bioretention and install 6" PVC pipe. 1 Week
 - Fill bioretention pit and plant the vegetation as per specifications. 1 Week
- Total Time: 25 Weeks
- *Work could be done consecutive with other operations.



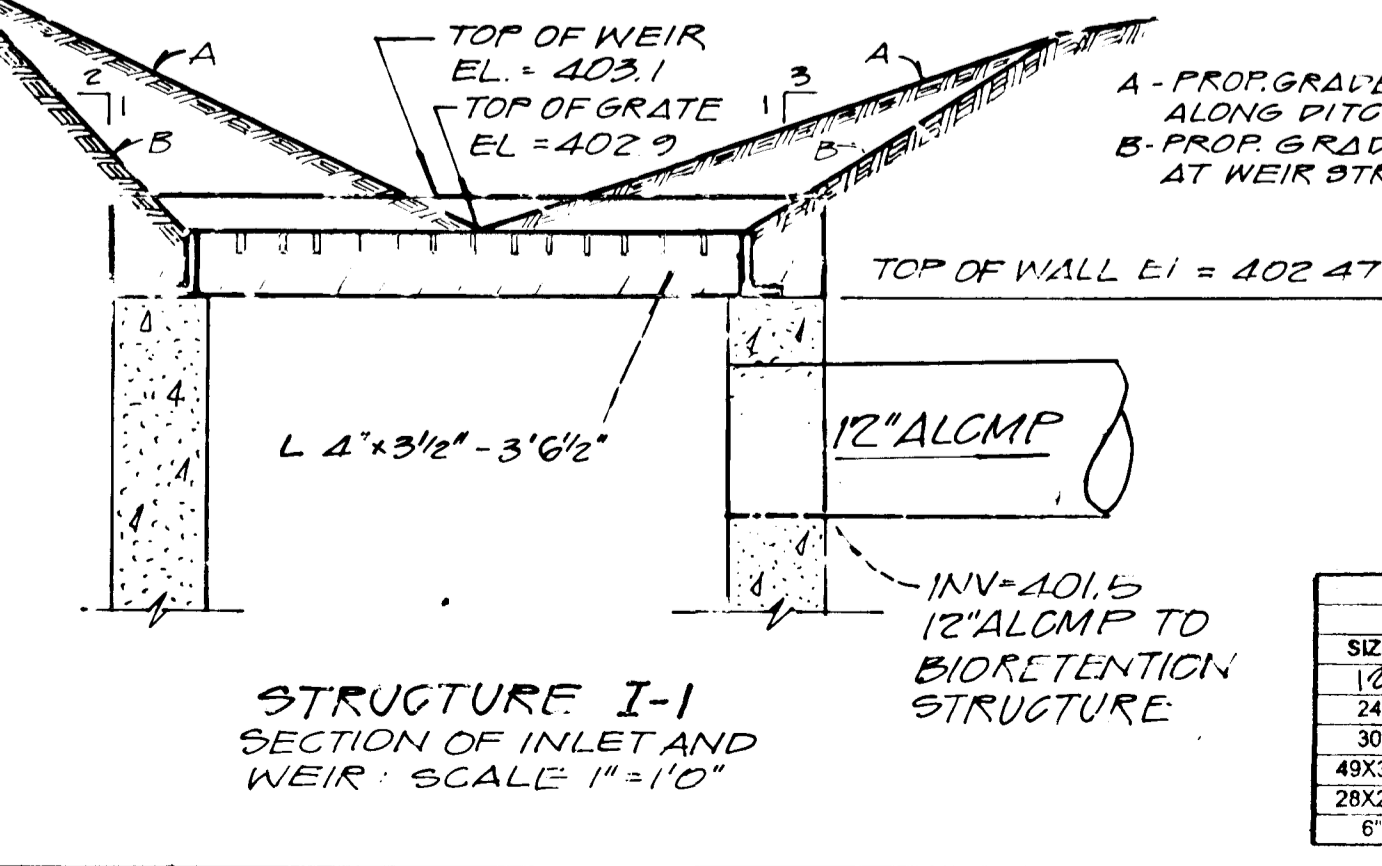
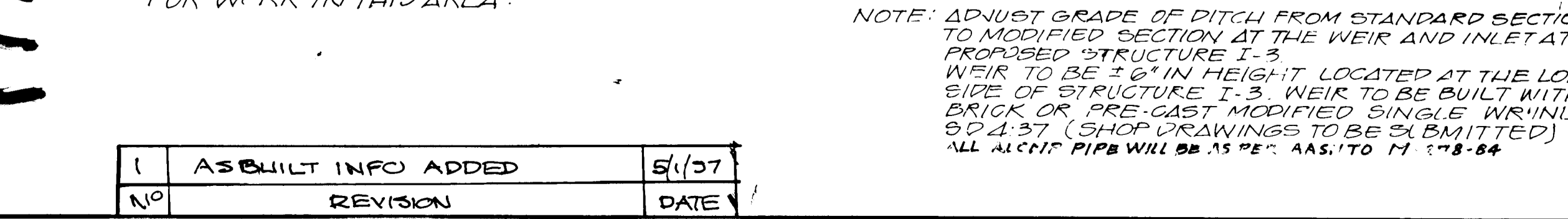
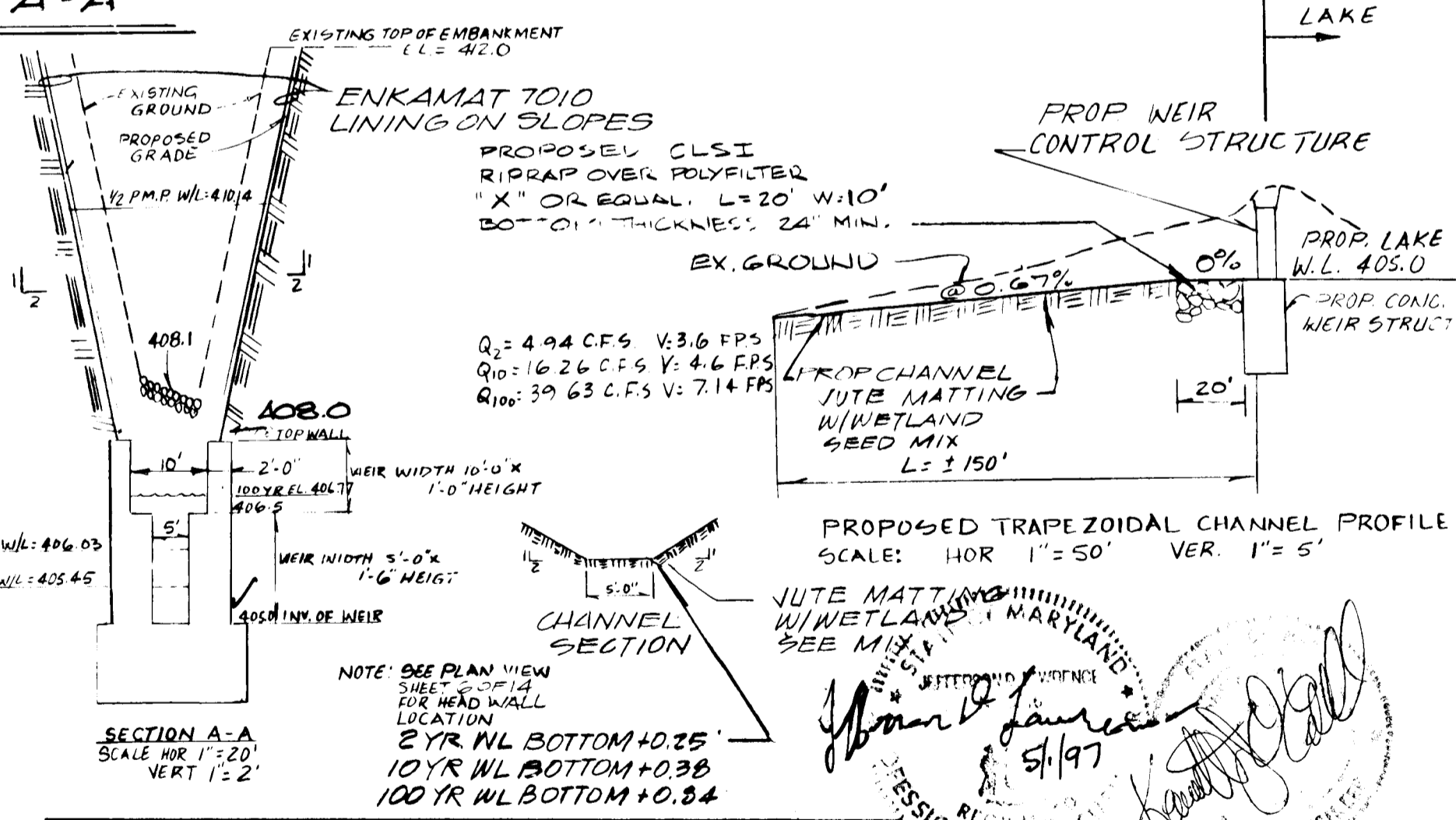
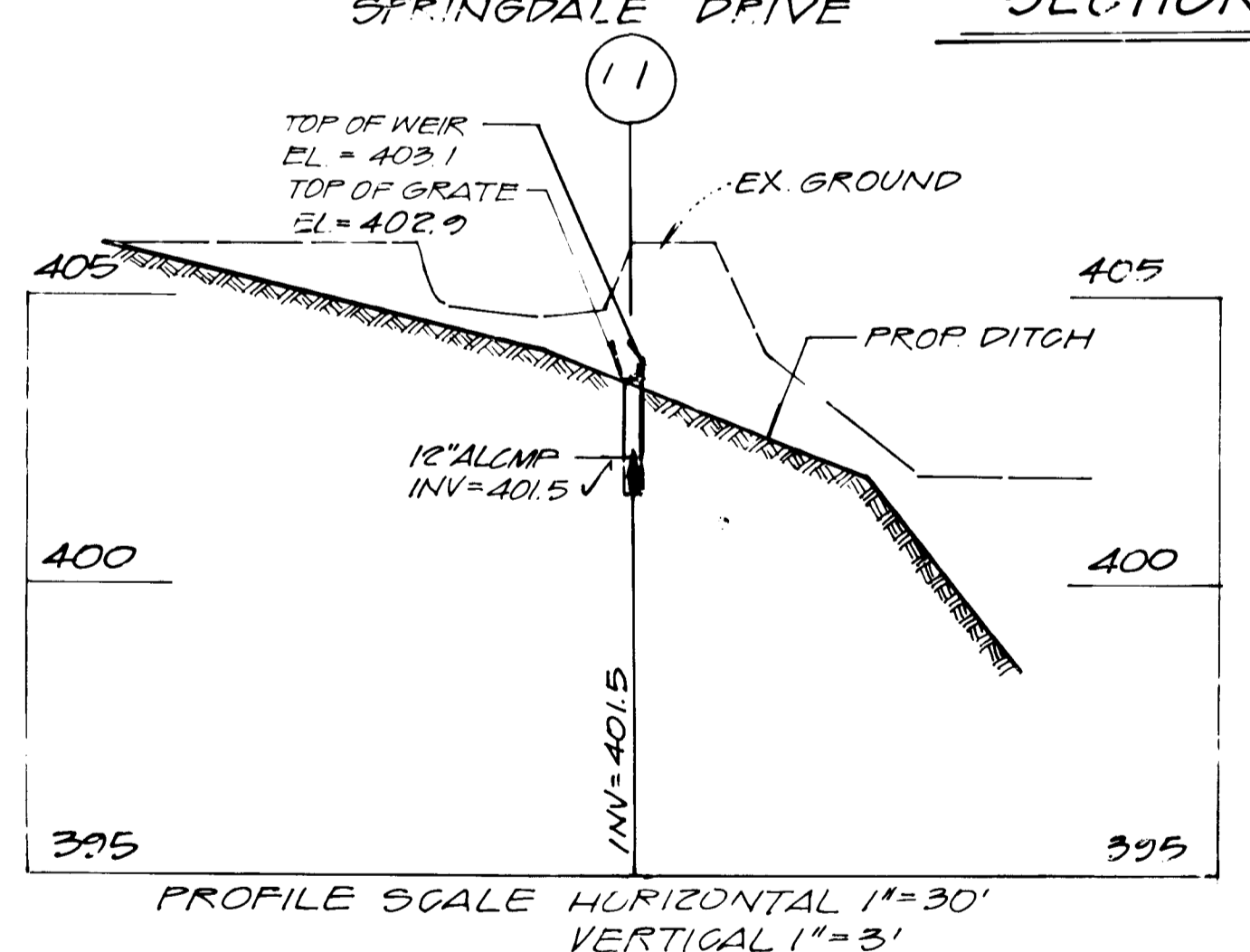
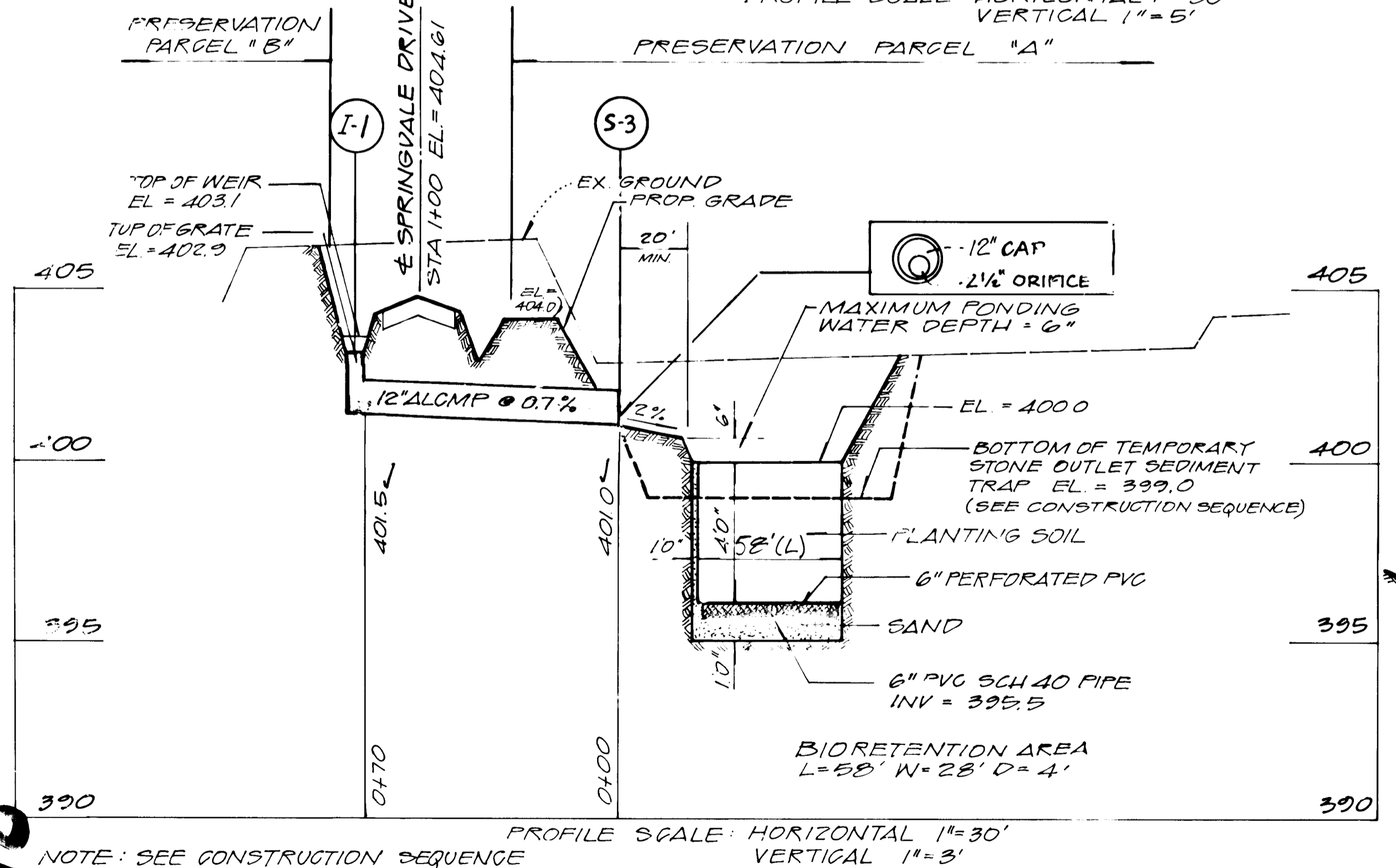
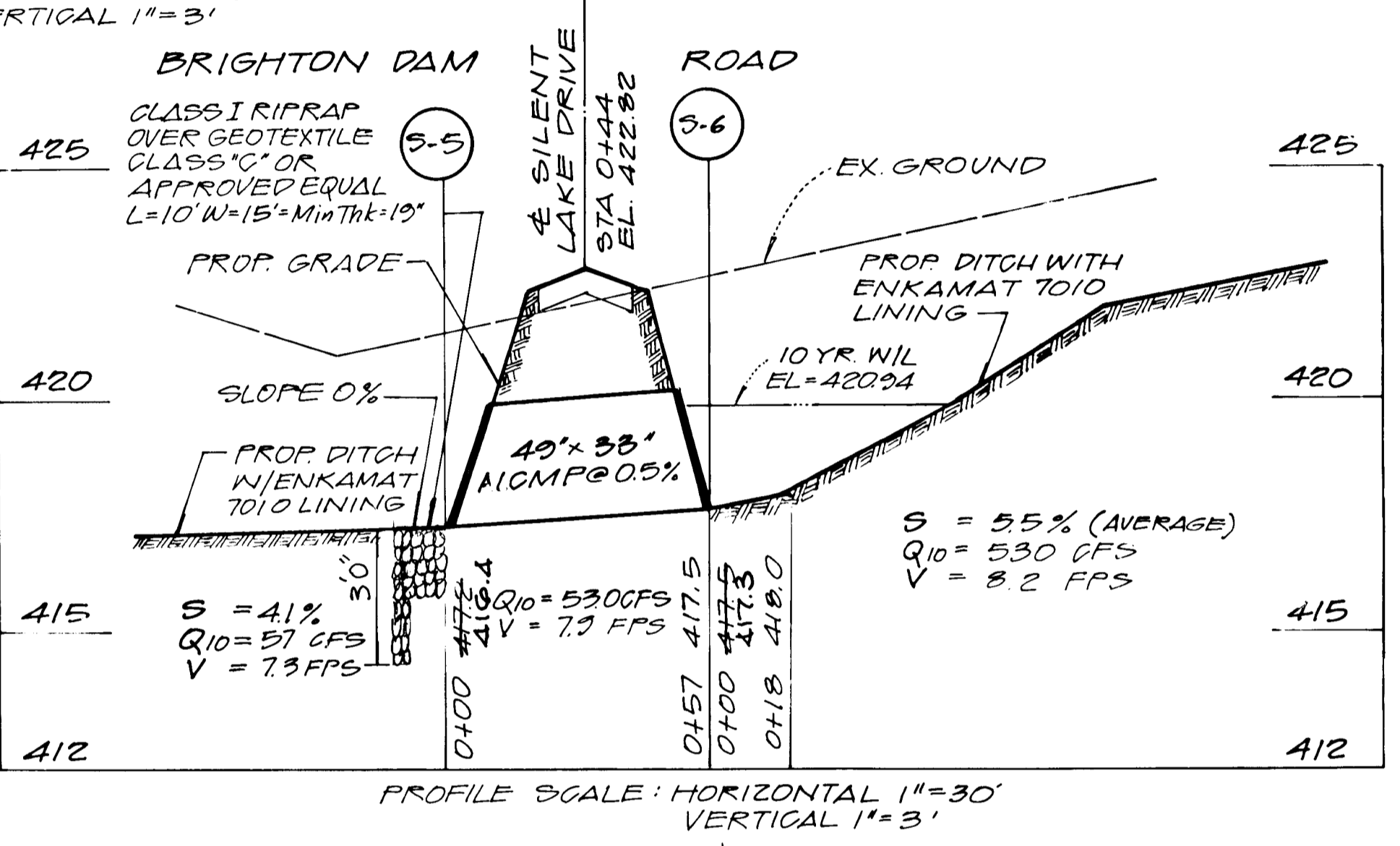
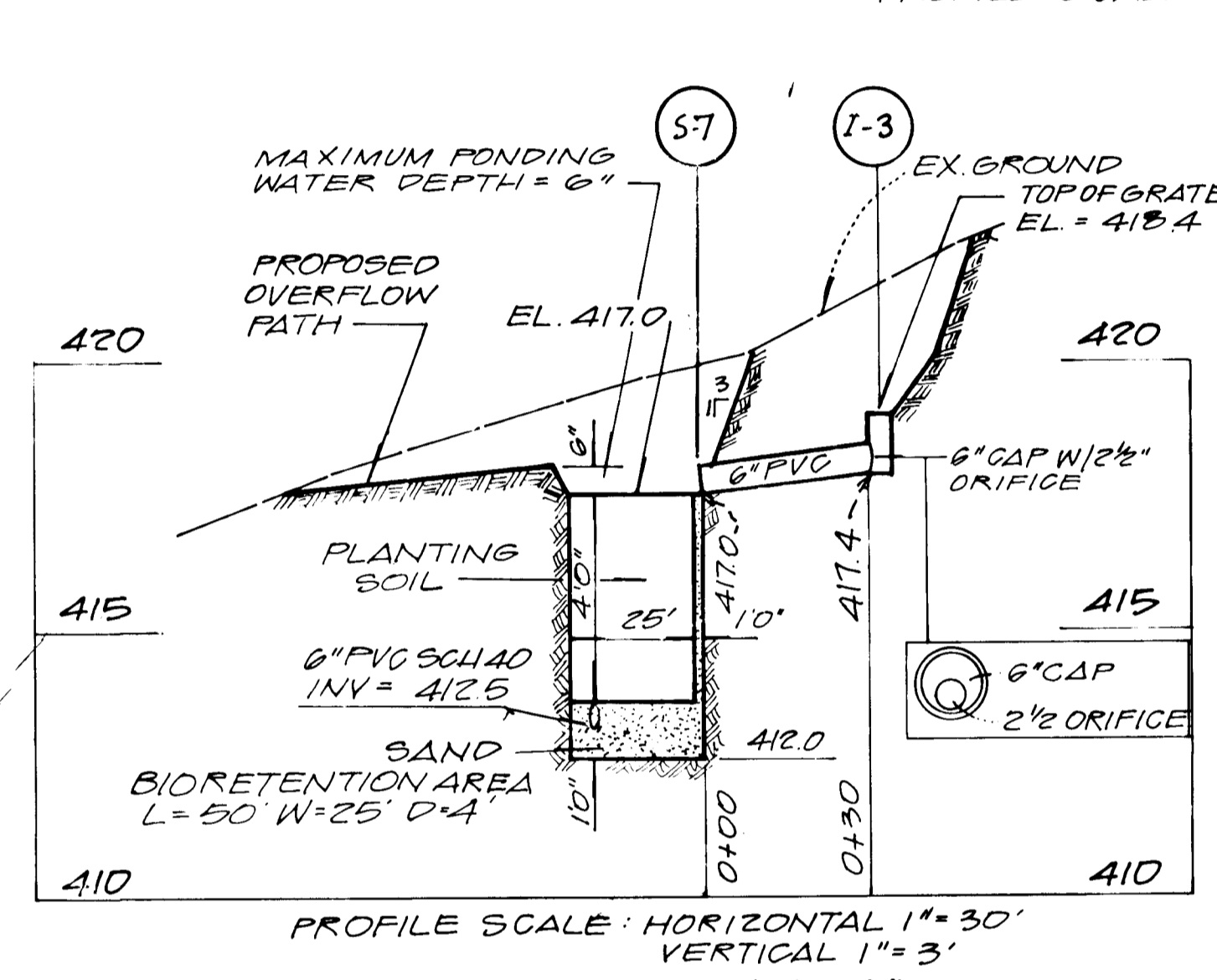
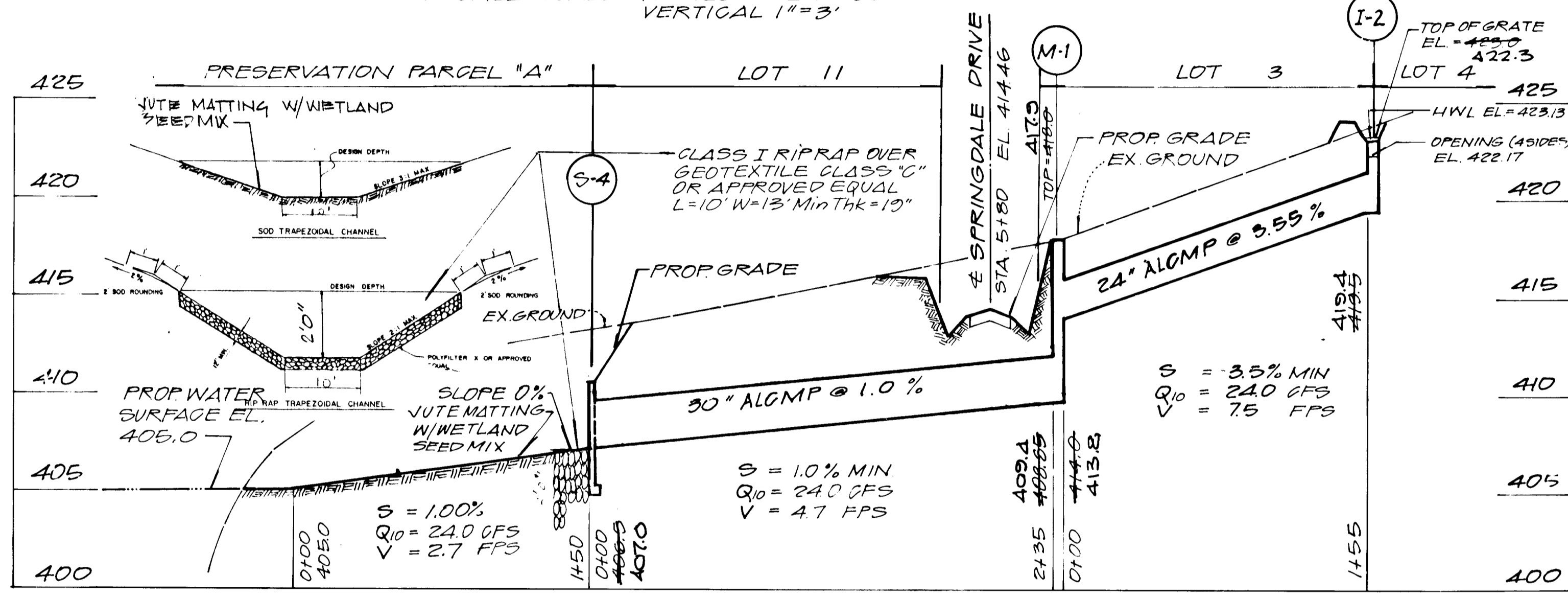
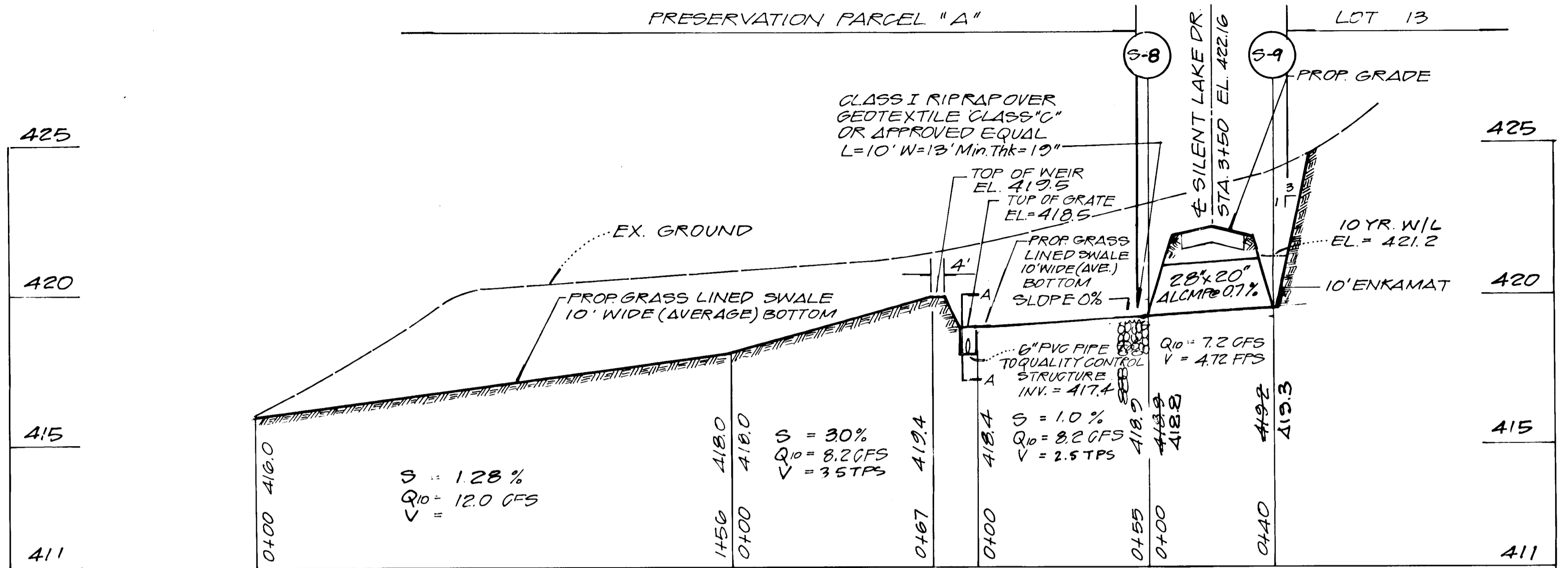
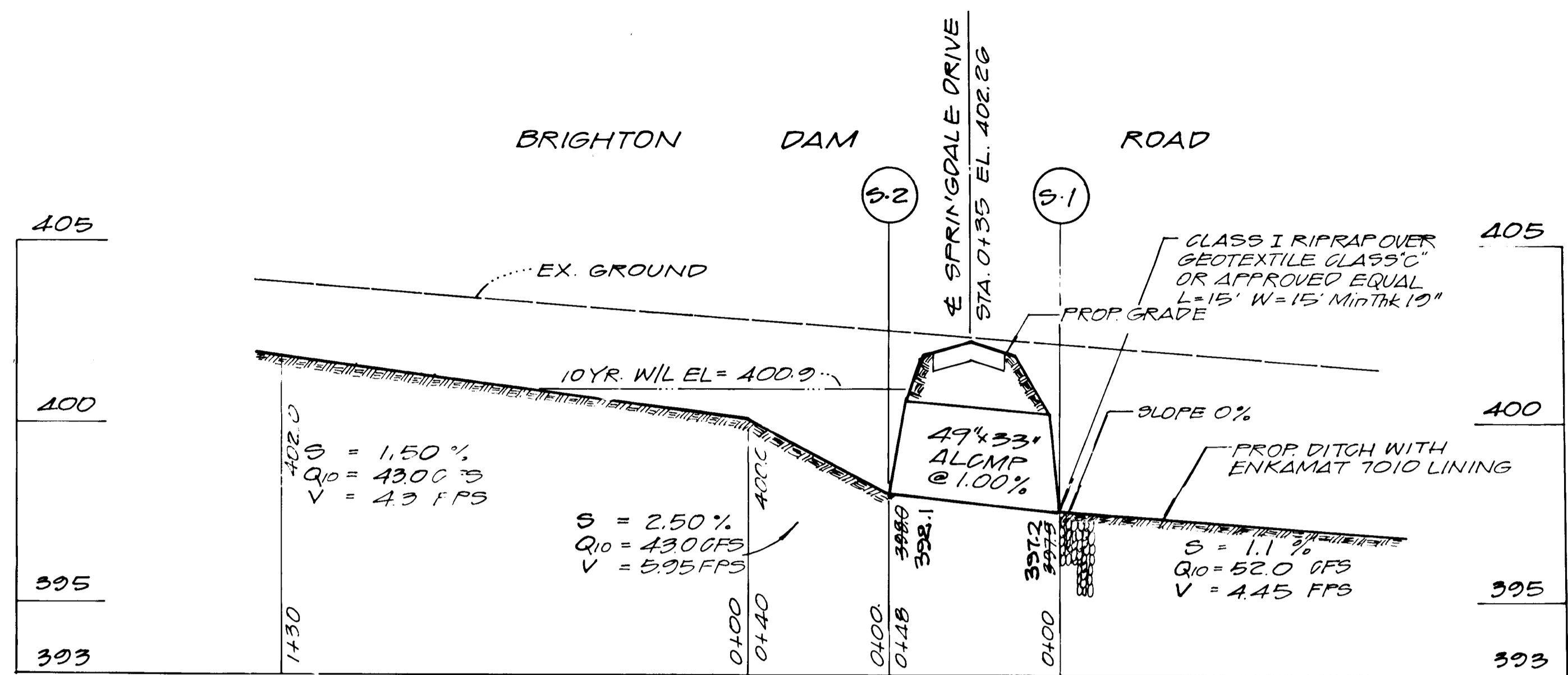
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DATE: 5/1/97

SPRINGDALE ESTATES
SEDIMENT CONTROL AND STORMWATER MANAGEMENT DETAILS

F-95-163

O'CONNELL & LAWRENCE, INC.
SURVEYORS, ENGINEERS & LAND PLANNERS
17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
Tel: (301) 924-4570 • Fax: (301) 924-5872

DESIGNED BY	DRAWN BY	DATE	SCALE	PROJECT/JOB NO.	SHEET NO.
MJK	AT	11/1/95	AS SHOWN	156-12	8 OF 14



STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEV.	OPENING ELEV.	INV. IN	INV. OUT	TYPE	REMARKS
S1	397.5				49X33" METAL END SECTION	S D 5.63
S2			398.0		49X33" METAL END SECTION	S D 5.63
S4	402.9				401.5 YARD INLET	S D 4.14
M1	410.9		414.0		406.9 TYPE "A" HEADWALL	S D 5.11
S2	423.0				406.9 PRECAST MANHOLE	S D 5.11
S8					419.5 TYPE "D" INLET	S D 4.11
S9			419.2		28X20" METAL END SECTION	S D 5.63
S5					417.2 49X33" METAL END SECTION	S D 5.63
S6			417.5		49X33" METAL END SECTION	S D 5.63
I3	418.4				418.0 YARD INLET	S D 4.14
S3	401.6		401.0		STD 6" PVC WITH CAP	2" ORIFICE
S7	418.0		417.5		STD 6" PVC WITH CAP	2.5" ORIFICE

* STD MD 378.05 "K" INLET W/ SINGLE OPENING ALSO MAY BE USED

PIPE SCHEDULE

SIZE	TYPE	LENGTH	GAGE
12"	ALCMP	70.0 FT	12
24"	ALCMP	155.0 FT	12
30"	ALCMP	235.0 FT	12
49X33"	ALCMP	102.0 FT	12
28X20"	ALCMP	40.0 FT	12
6"	PVC	300 FT	SCH. 40

SPRINGDALE ESTATES

F-95-163

LOTS 1-18 AND PARCEL "A" & "B"

TAX MAP 34, GRID 14, PARCEL 60

5TH ELECTION DISTRICT HOWARD COUNTY, MD

OWNER AND DEVELOPER
HIGHLAND DEVELOPMENT CORP.
C/O RICHARD J. DEMARTY
P.O. BOX 228
CLARKSVILLE, MD 21029

SCALE: AS SHOWN DATE: SEPT. 15, 1995 DWG. NO. 9 OF 14

DES: MJK DRN: AJI CHK: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature]

APPROVED: [Signature]

O'CONNELL & LAWRENCE, INC.
SURVEYORS, ENGINEERS & LAND PLANNERS
17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
Tel: (301) 924-4570 Fax: (301) 924-4572

STORM DRAIN AND STORMWATER MANAGEMENT PROFILES & DETAILS

SPRINGDALE ESTATES

CLARKSVILLE (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TAX MAP 34, GRID 14, PARCEL 60, 594.31, P95-08, F95-163

O'CONNELL & LAWRENCE, INC.

DESIGNER: N.S.

DRAWN: W.K.A.

SHEET: 9

DATE: NOV. 1995 OF 14

SCALE: AS SHOWN

JOB No. 136-12

17904 GEORGIA AVENUE SUITE 302 OLNEY MARYLAND 20832 301-924-4570 301-924-5872

1778

NO.	REVISION	DATE
1	AS BUILT INFO ADDED	5/1/97

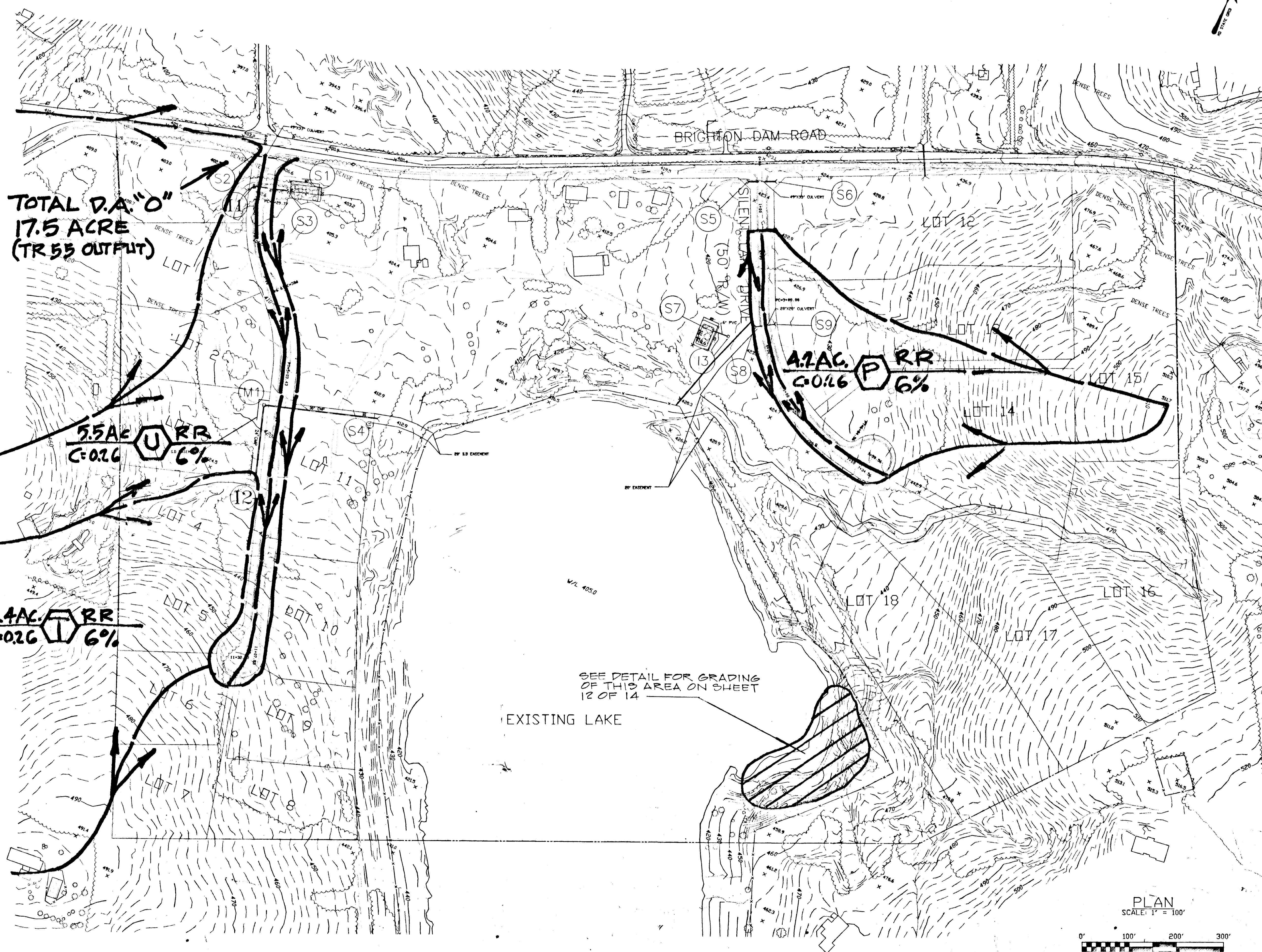
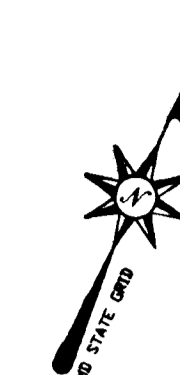
OWNER AND DEVELOPER
 HIGHLAND DEVELOPMENT CORP.
 c/o RICHARD J. DEMMITT
 P.O. BOX 228
 CLARKSVILLE, MD 21029

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Howard Shick
 CHIEF, BUREAU OF HIGHWAYS DATE 1/19/96

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Alma Summark
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE 1/19/96
Robert Dammann
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 1/17/96



TOTAL D.A. "O"
 17.5 ACRE
 (TR 55 OUTPUT)

SEE DETAIL FOR GRADING
 OF THIS AREA ON SHEET
 12 OF 14

EXISTING LAKE

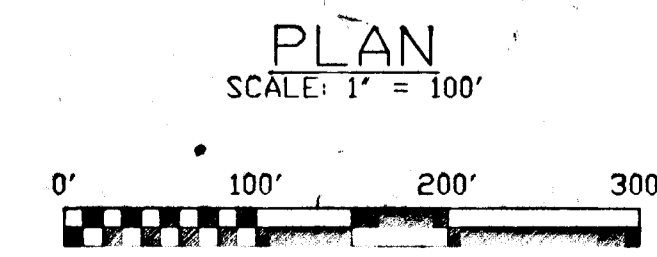


November 7, 1995

SPRINGDALE ESTATES
 DRAINAGE AREA MAP

F-95-163

O'CONNELL & LAWRENCE, INC.
 SURVEYORS, ENGINEERS & LAND PLANNERS
 17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
 Tel: (301) 924-4570 • Fax: (301) 924-5872

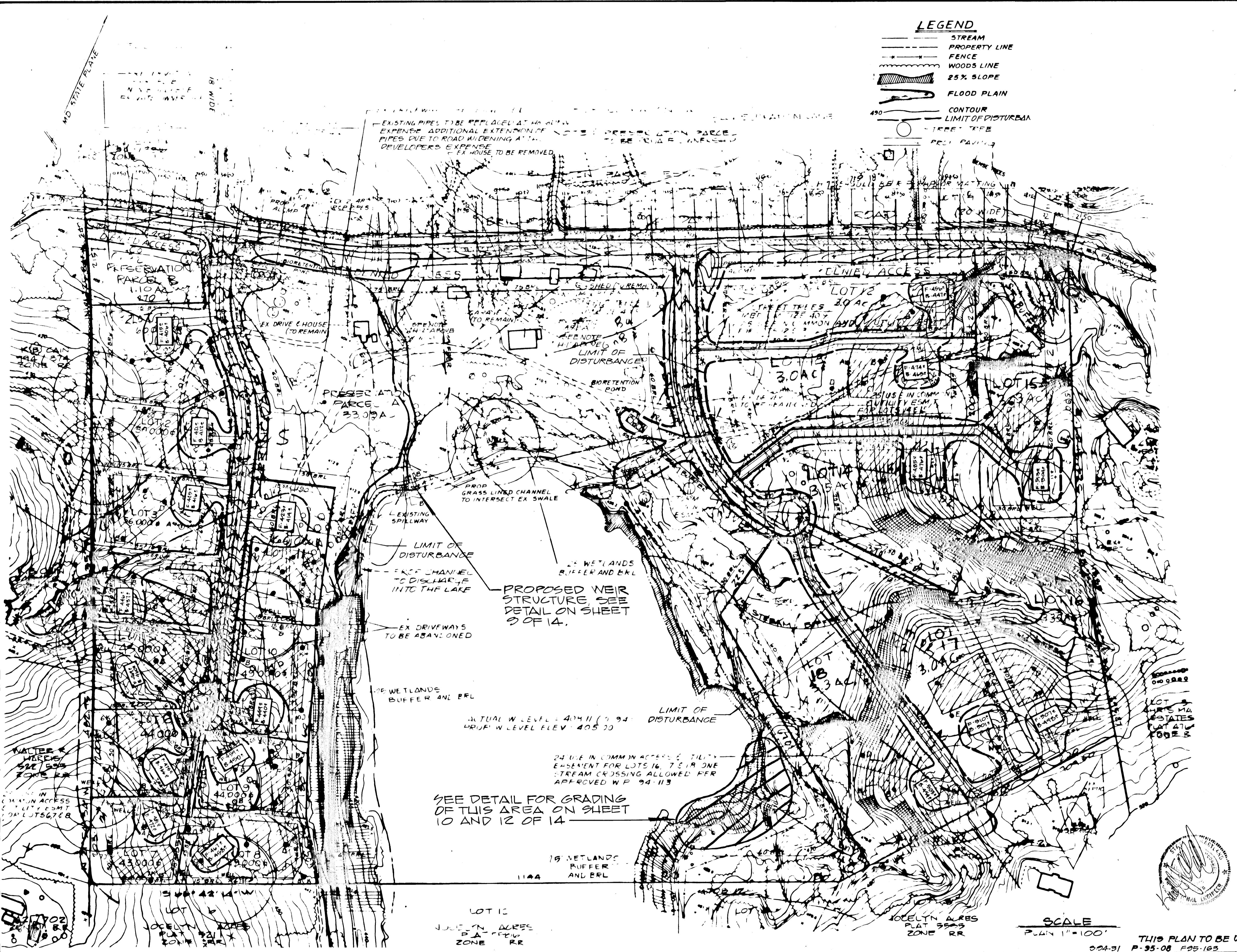
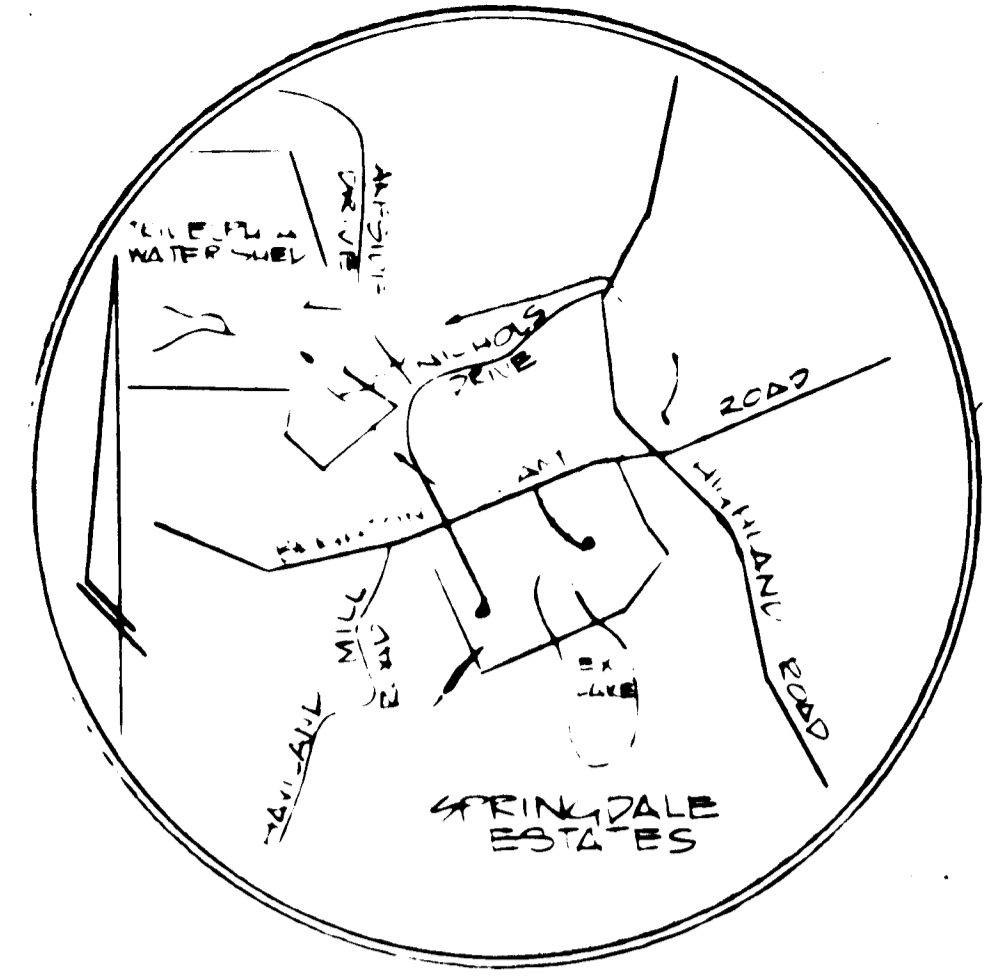


DESIGNED BY HJK	DRAWN BY AT	DATE NOV 1995	SCALE 1" = 100'	PROJECT/JOB NO. 156-12	SHEET NO. 10 OF 14
--------------------	----------------	------------------	--------------------	---------------------------	-----------------------

1778

LEGEND

- STREAM
- PROPERTY LINE
- FENCE
- WOODS LINE
- ▨ 25% SLOPE
- FLOOD PLAIN
- CONTOUR
- LIMIT OF DISTURBANCE
- TREE
- FENCE PAILING



SPRINGDALE ESTATES
 F-95-163
 LOTS 1-18 AND PARCEL "A" & "B"
 TAX MAP: 34 GRID 14 PARCEL 60
 5TH ELECTION DISTRICT HOWARD COUNTY, MD.

OWNER AND DEVELOPER
 HIGHLAND DEVELOPMENT CORP.
 c/o RICHARD J. DEMMITT
 P.O. BOX 228
 CLARKSVILLE, MD 21029

SCALE: AS SHOWN DATE: NOV 1995 DWG. NO. 11 OF 14
 DES. MJK DRN. AT CHK.
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE: 1/17/96
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 1/17/96
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 [Signature] DATE: 1/17/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

O'CONNELL & LAWRENCE, INC.
 SURVEYORS, ENGINEERS & LAND PLANNERS
 17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
 Tel: (301) 924-4570 • Fax: (301) 924-0872



SCALE
 PLAIN 1"=100'

THIS PLAN TO BE USED FOR HOUSE AND DRIVEWAY GRADING.
 004-31 P-35-08 F-95-163

NO.	REVISIONS	DATE

O'CONNELL & LAWRENCE, INC.
 17904 GEORGIA AVENUE # 302
 OLNEY, MARYLAND 20832
 301-924-4570

DATE: NOV 1995
 DRAWN: WA/AL
 CHECKED: NL
 SCALE: 1"=100'

GRADING PLAN
 18 LOTS AND PRESERVATION ON PARCELS A & B
SPRINGDALE ESTATES
 CLARKSVILLE (3) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

Sheet 11 of 14
 PROJECT NO. 136-12

1778

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS *Howard Shul* 1/19/96
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH *Uma Dumanovic* 1/19/96
 DATE

Rob Dumanovic 4/17/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

SEDIMENT CONTROL

Developer Certification:
 I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

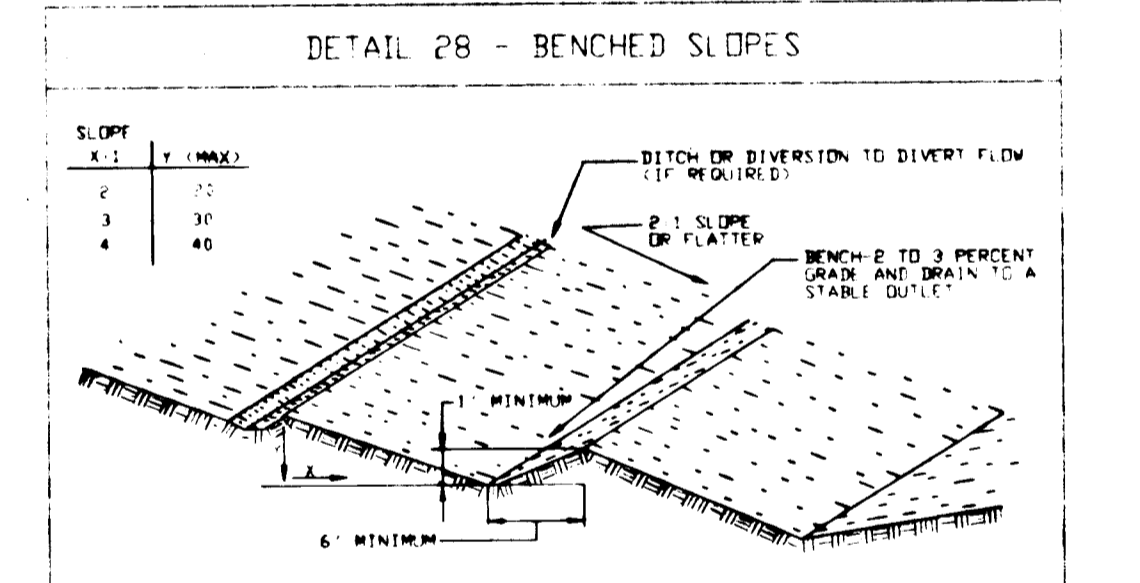
Richard McNeill President NOV 8, 1995
 Signature Date

Engineer Certification:
 I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Conservation District.

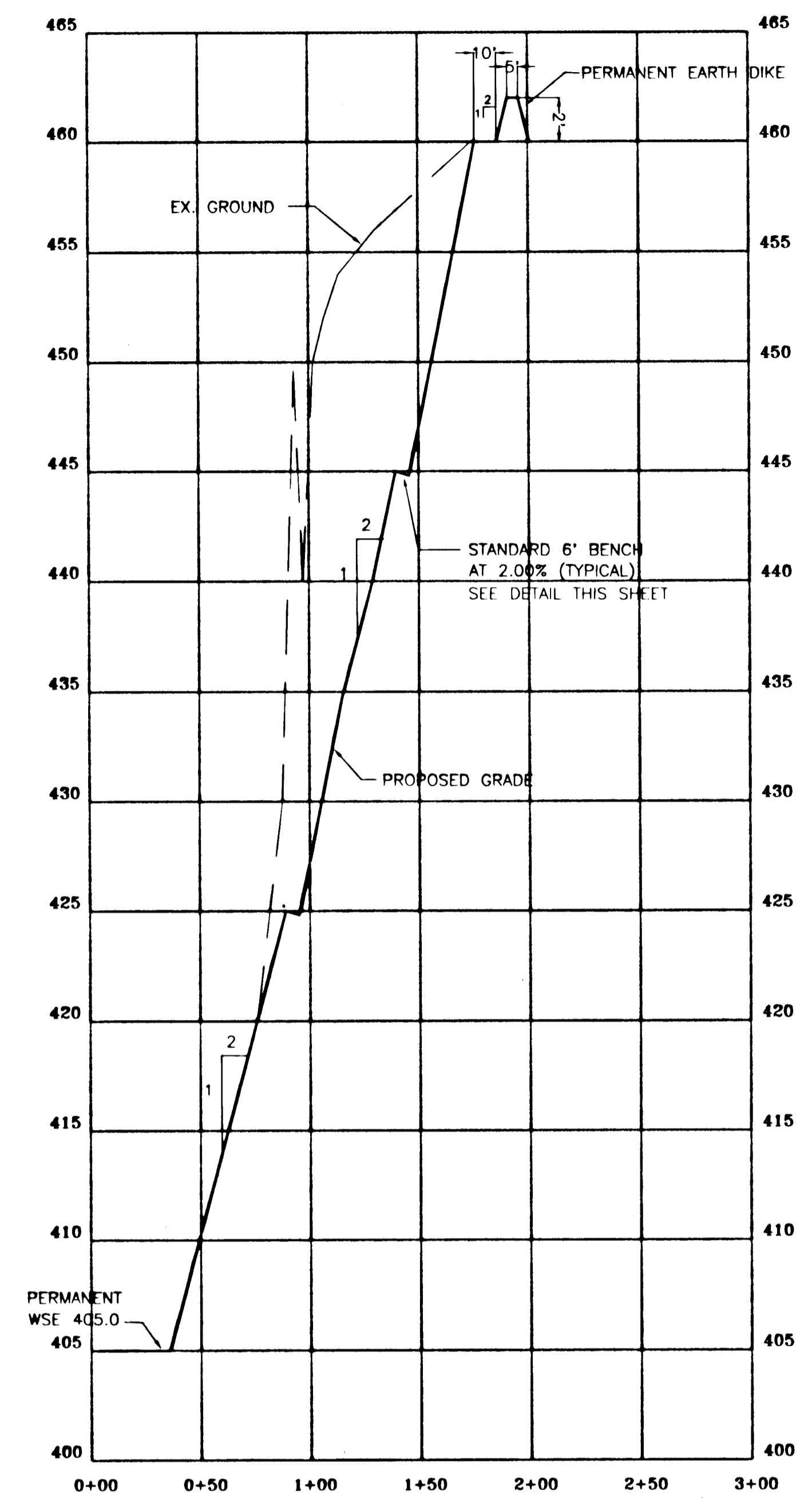
Kurt Pall NOV 7, 1995
 Signature Date

Reviewed for HOWARD S.C.D. and meets Technical Requirements
Patricia Ingh 1/2/96
 Natural Resources Conservation Service Date

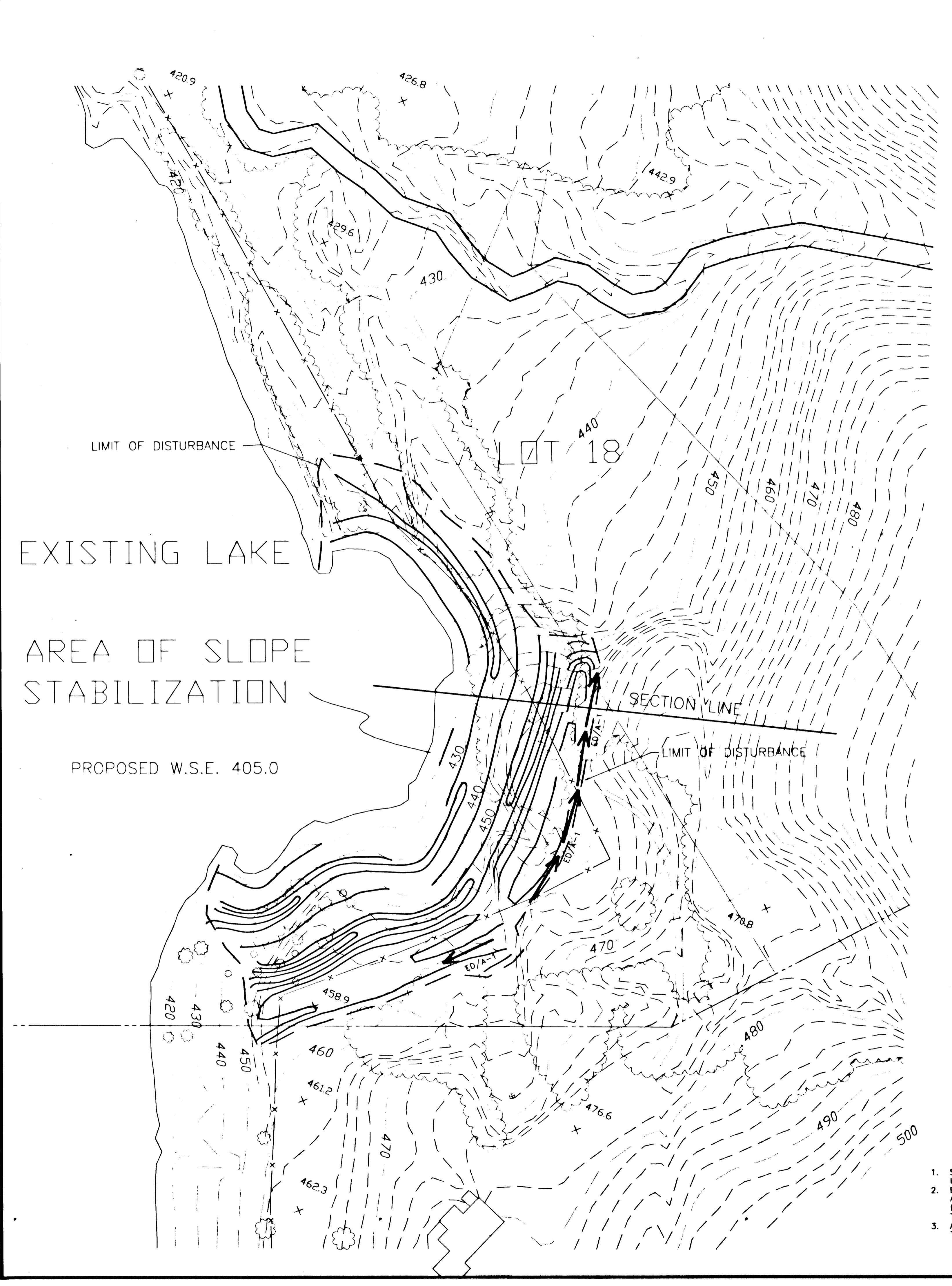
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Shelley King 1/2/96
 Howard S.C.D. Date



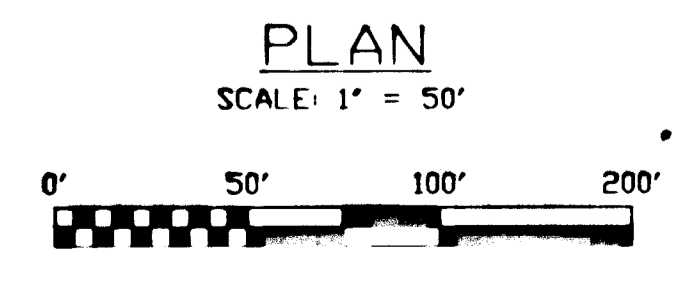
- Construction Specifications
- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fills intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.
 - All fill shall be placed and compacted in layers not to exceed 8" in thickness.
 - Except for approved landfills or nonstructural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.
 - Frozen material or soft, sticky or highly compressible materials shall not be incorporated into fill slopes or structural fills. Fill shall not be placed on a frozen foundation.
 - All benches shall be kept free of sediment during all phases of development.
 - Slopes or springs encountered during construction shall be handled in accordance with the Standard and Specification for Subsurface Drain or other approved methods.
 - All graded areas shall be permanently stabilized immediately following finished grading.
- U.S. DEPARTMENT OF AGRICULTURE PAGE 3 MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



TYPICAL SECTION
 SCALE: HOR. 1"=50' VERT. 1"=5'



- NOTES:
- SLOPE TO BE STABILIZED WITH "WEEPING LOVEGRASS" IN ACCORDANCE WITH HSCD PERMANENT SEEDING NOTES.
 - EXISTING LAKE TO USED FOR SEDIMENT CONTROL PURPOSES ASSOCIATED WITH THE SLOPE STABILIZATION. THE EXISTING LAKE SIZE AND STORAGE CAPACITIES IS SUFFICIENT TO CONTROL THIS DISTURBANCE.
 - ACCESS TO THE WORK AREA IS PERMITTED AS REQUIRED THROUGH LOT 18 AND PRESERVATION PARCEL A.



SPRINGDALE ESTATES
 SLOPE STABILIZATION PLAN

F-95-163

O'CONNELL & LAWRENCE, INC.
 SURVEYORS, ENGINEERS & LAND PLANNERS
 17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
 Tel: (301) 924-4570 • Fax: (301) 924-5872

DESIGNED BY MJK	DRAWN BY AT	DATE: 11/1/95	SCALE: P. 50'	PROJECT/JOB NO. 136-12	SHEET NO. 12 OF 14
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DENNIS J. LABARE, M.S., & ASSOCIATES
Environmental Consulting Services
1100 Maplestone Circle
Randallstown, MD 21133
Professional Engineer, MDPCE
P.E. No. (110) 932-7476

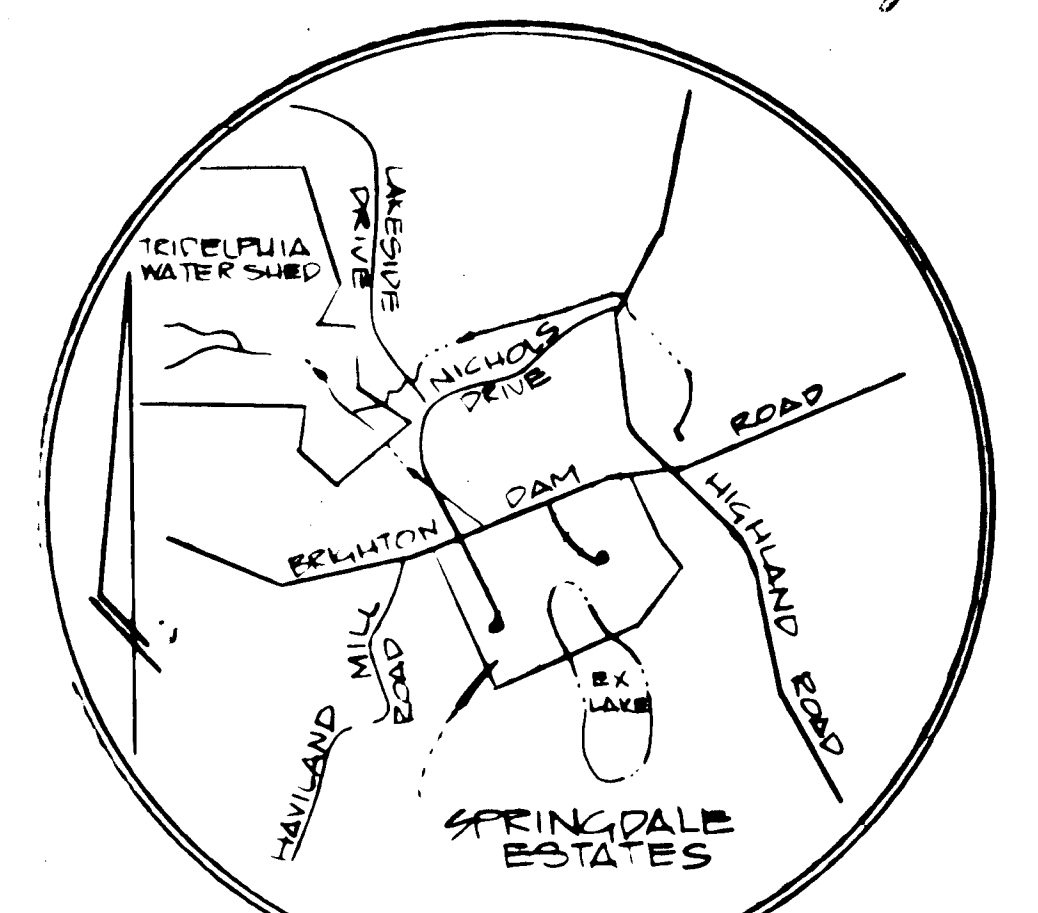
GRADING, CONSTRUCTION OR THE REMOVAL OF VEGETATION FROM WITHIN THE STREAMBANK OR WETLANDS BUFFER IS PROHIBITED, EXCEPT AS APPROVED IN CONJUNCTION WITH WP-94-113

TREE PROTECTION DEVICE (ENCLOSURE)

LEGEND

- 1.5 AC. FOREST CONSERVATION
- STREAM
- PROPERTY LINE
- FENCE
- WOODS LINE
- 25% SLOPE
- FLOOD PLAIN
- CONTOUR
- LIMIT OF DISTURBANCE
- STREET TREE
- PROP PAVING

- GENERAL NOTES**
- Total area of property: 73.0426 Acres
 - Total area of dedication: 4.19 Acres
 - Total number of lots: 11
 - Cluster Lots 11 - 12.58 Acres
 - 3 Bare Lots 21.1 Acres
 - Preservation Parcel: 34.1926 Acres
 - Tax Map: Map 34 Grid 14 Parcel 60
 - Property road: RR
 - Roll map: Number 22
 - Deed reference: Liber 934 at Folio 250
 - Private well & septic to be utilized
 - 100 year flood plain based on a study by: Development Consultants Group Inc., 17904 Georgia Ave., Suite 302, Olney, Maryland 20832
 - Topographic Survey - Aerial March 1994
 - Preservation Parcels A & B will be privately owned.
 - As of July 28, 1994, the Planning Director approved your request to waive Section 16.11(a) to permit grading, removal of vegetation and construction within the 75 foot streambank buffer for the construction of a driveway serving Lots 16-18 and Section 16.11(a) to permit grading and the removal of vegetation within the 25 foot wetlands buffer around the man-made lake.



VICINITY MAP SCALE 1" = 2000'

SPRINGDALE ESTATES
F-95-163
LOTS 1-18 AND PARCEL "A" & "B"
TAX MAP: 34 GRID 14 PARCEL 60
5TH ELECTION DISTRICT HOWARD COUNTY, MD

OWNER AND DEVELOPER
HIGHLAND DEVELOPMENT CORP.
c/o RICHARD J. DEMMITT
P.O. BOX 228
CLARKSVILLE, MD 21029

SCALE: AS SHOWN DATE: NOV. 1995 DWG. NO. 13 OF 14
DES: MJK DRN: AT CHK: [Signature]
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS [Signature] DATE: [Date]

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] DATE: 11/9/96
[Signature] DATE: 11/2/96

O'CONNELL & LAWRENCE, INC.
SURVEYORS, ENGINEERS & LAND PLANNERS
17904 Georgia Avenue, Suite 306, Olney, Maryland 20832
Tel: (301) 924-4570 Fax: (301) 924-6872

- AREA TABULATION**
- A) 3.0 ACRE DEVELOPMENT**
- TOTAL AREA 3.0 ACRE LOTS - 21-7
 - BRIGHTON DAM ROAD - ROAD DEDICATION - 0.7 (SILENT LAKE DRIVE TO EAST PROPERTY LINE)
 - SILENT LAKE DRIVE - ROAD DEDICATION - 1.0
 - TOTAL ROAD DEDICATION - 1.7
- B) CLUSTER DEVELOPMENT**
- TOTAL AREA AVAILABLE = 49.3 Ac.
 - 49.3 - 4.25 = 11 Lots
 - 11 CLUSTER LOTS TOTAL 12.58 Ac.
 - BRIGHTON DAM ROAD, ROAD DEDICATION = 1.05 Ac. (SILENT LAKE DRIVE TO WEST PROPERTY LINE)
 - SPRINGDALE DRIVE DEDICATION = 1.44 Ac.
 - TOTAL AREA PRESERVATION PARCEL "A" & "B" = 34.19 AC.
- A) BRLS 30 ACRE (MIN LOT)**
FRONT = 75'
SIDE = 30' (60' FROM STREET)
REAR = 60'
LOT WIDTH @ BRL 200'
- B) BRLS CLUSTER (40000\$ MAX / 40,000\$ MIN)**
FRONT = 60'
SIDE = 15' (40' FROM STREET)
REAR = 50' (60' FROM STREET)
LOT WIDTH @ BRL / MIN LOT WIDTH = 100'

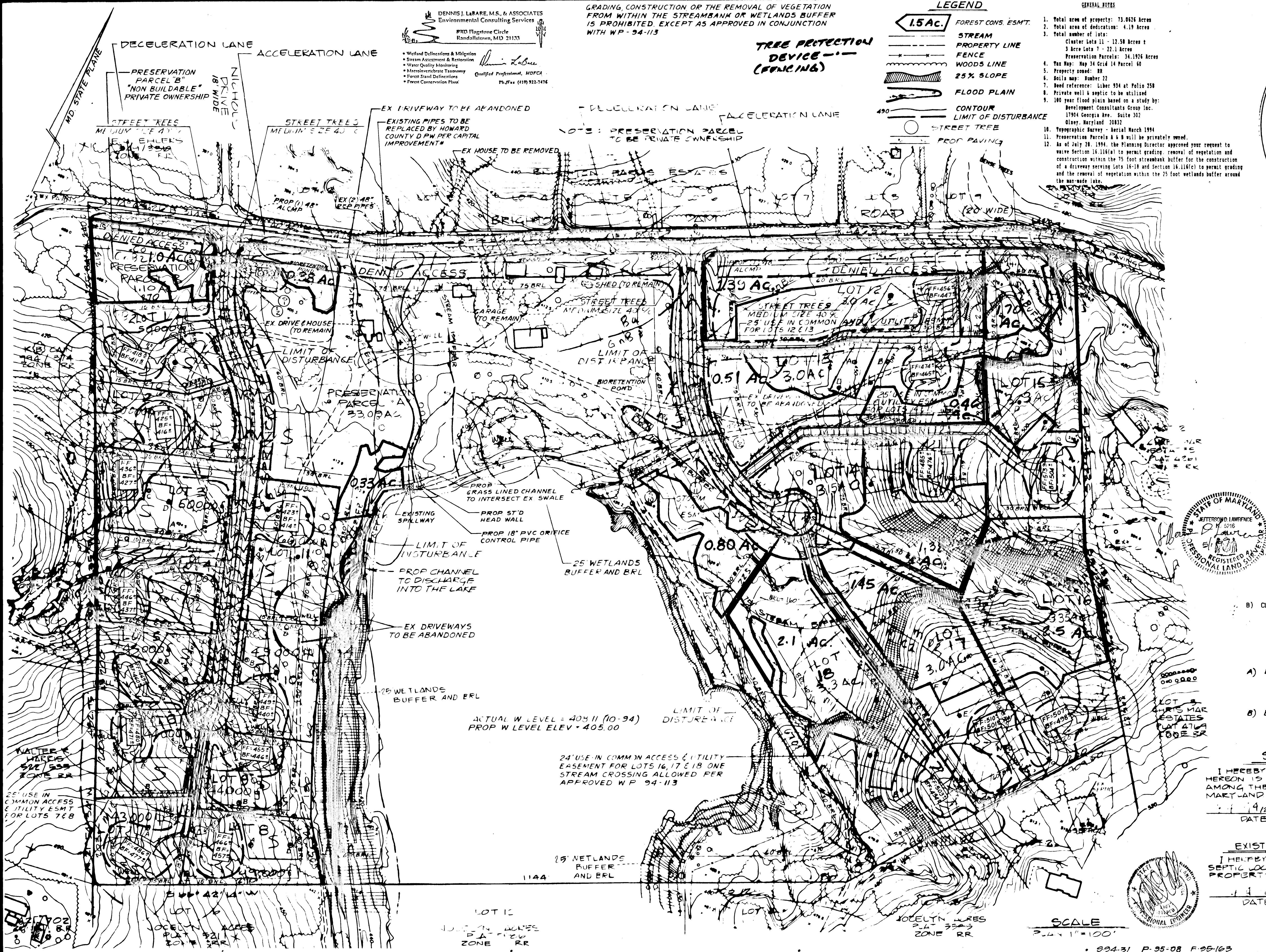
I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS CORRECT: PER DEEDS RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND

DATE: 11/21/95 [Signature]
JEFFERSON D. LAWRENCE
MD REG. PROFESSIONAL
LAND SURVEYOR 5216

EXISTING WELL/SEPTIC CERTIFICATE

I HEREBY CERTIFY THAT ALL EXISTING WELL AND SEPTIC LOCATIONS WITHIN 100 FEET OF THIS PROPERTY ARE SHOWN HEREON.

DATE: 11/21/95 [Signature]
JEFFERSON D. LAWRENCE
MD REG. PROFESSIONAL
LAND SURVEYOR 5216



Owner/Developer:
HIGHLAND DEVELOPMENT CORP.
c/o RICHARD J. DEMMITT
PO BOX 228
CLARKSVILLE, MD 21029
410 931 9939

NO.	REVISIONS	DATE

O'CONNELL & LAWRENCE, INC.
17904 GEORGIA AVENUE * 302
OLNEY, MARYLAND 20832
301-924-4570

DATE: NOV. 1995
DRAWN: WA/JL
CHECKED: JL
SCALE: 1" = 100'

5-94-31 P-95-08 F-95-163
18 LOTS AND PRESERVATION ON PARCELS A & B
SPRINGDALE ESTATES
CLARKSVILLE (3) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

Sheet **13** of 14
PROJECT NO. 136-12
F-95-163

1778

APPENDIX G
FOREST CONSERVATION WORKSHEET

ACRES
(100 AC)

I. BASIC SITE DATA

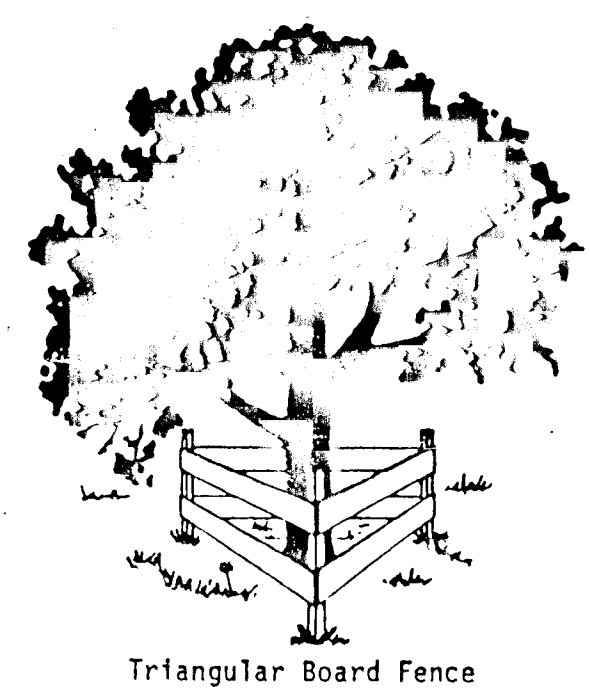
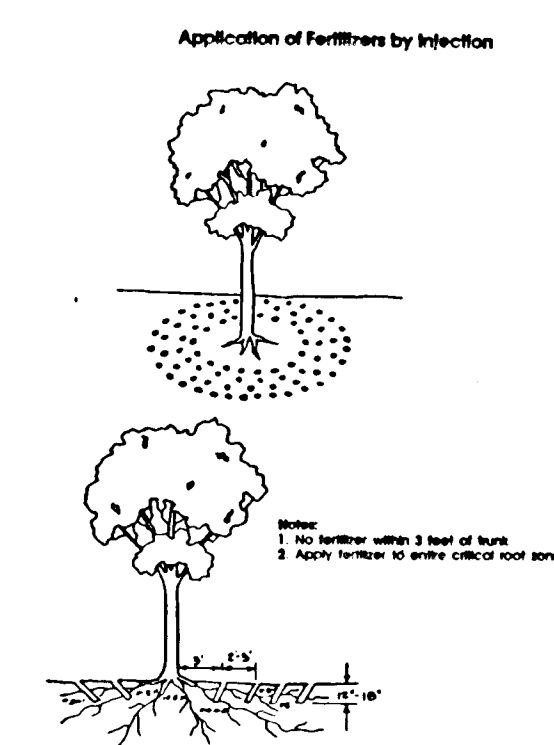
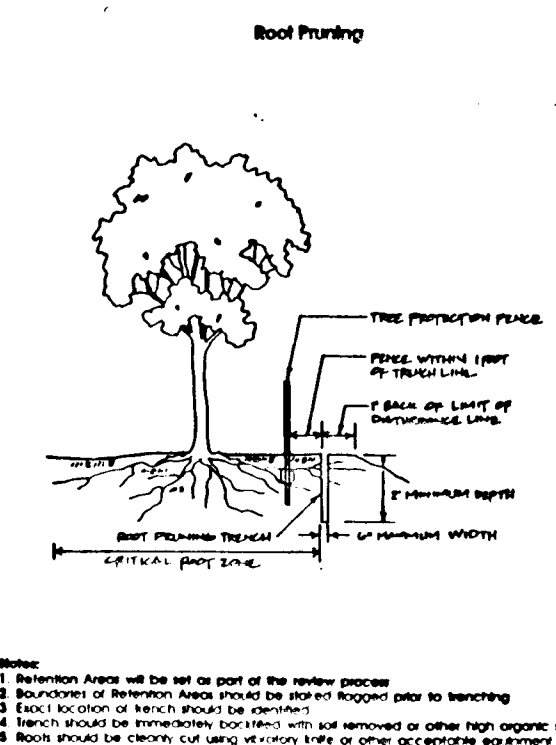
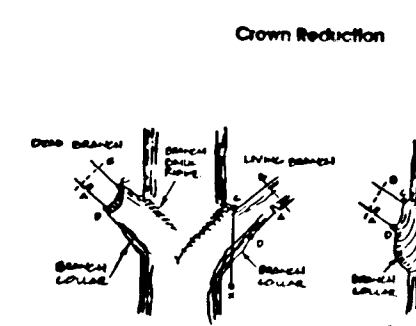
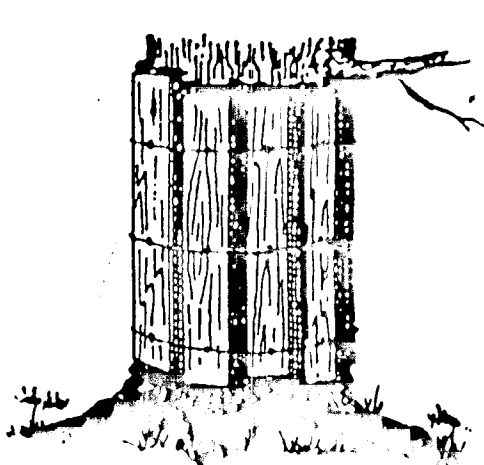
GROSS SITE AREA	27.1
AREA WITHIN 100 YEAR FLOODPLAIN	1.4
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	14.6
NET TRACT AREA	38.9
LAND USE CATEGORY (R.RLD, R.RMD, R.S, CAVO, I) 2/2/92	

II. INFORMATION FOR CALCULATIONS

A. NET TRACT AREA	38.9
B. REFORESTATION THRESHOLD (25% X A)	9.7
C. AFFORESTATION MINIMUM (20% X A)	7.8
D. EXISTING FOREST ON NET TRACT AREA	31.9
E. FOREST AREAS TO BE CLEARED	17.8
F. FOREST AREAS TO BE RETAINED	14.1

BREAK-EVEN (BEP) CALCULATIONS

Zone: R-MD
Reforestation Threshold: 25%
Therefore:
 $(25 \times 38.9 = 9.7) + (20 \times 22.2 = 4.4) = 14.1$ Acres
This minimum retention shall be found in Forest Conservation Easements and in 2/3's credit for Septic Reserve Areas,



FOREST PROTECTION PROCEDURES - Preconstruction Phase
Stress Reduction and Protection of Specimen Trees Isolated from Forest Retention Areas and General Forest Retention Areas (As They May Apply)

Isolated specimen trees that are to be preserved will be examined to determine if stress reduction techniques are needed. Protective measures and their evaluation criteria are provided on this plan only if they are employed herein.

Root Pruning
Evaluation Criteria
Will the critical root zone be affected by construction activities such as grade changes, digging for foundations and roads or utility installation.

Design Considerations

- Prune prior to construction as shown on the plan (see Figure "Root Pruning Detail.")
- Prune root with a clean cut using proper pruning equipment such as a vibratory knife.
- Exact location of pruning trench should be identified, and immediately back-filled to cover exposed roots after pruning with soil removed other topsoil, peat moss, or other suitable material or with other high organic soil.
- For trees over 15" in diameter, root pruning may be done up to one year in advance of construction.
- Tree(s) will be monitored for signs of stress.

Crown Reduction or Pruning
Evaluation Criteria
Has the root system been significantly reduced (>30%) or are there dead, damaged, or diseased limbs.

Design Considerations

- Reduce only at specified times of the year: Flowering trees - only after flowering and before bud set. Non-flowering trees - in late winter, early spring or mid-summer.
- No more than 1/3 of the crown should be removed at one time using acceptable pruning methods (see Figure "Crown Reduction Detail.")
- Monitor for signs of stress.

Watering
Evaluation Criteria
Will construction activities alter the hydrology of the site? Has or will root pruning occur.

Design Considerations

- Water only as necessary.
- Monitor for signs of stress (see Figure "Tree Planting and Maintenance Calendar")

- Construction activities expressly prohibited within the preservation areas are:
 - Placing or stockpiling backfill or top soil in protected area
 - Felling trees into protected areas
 - Driving construction equipment into or through protected areas
 - Burning in or in close proximity to protected areas
 - Stacking or storing supplies of any kind
 - Concrete wash-off areas
 - Conducting trenching operations
 - Grading beyond the limits of disturbance
 - Parking vehicles or construction equipment
 - Removal of root mat or topsoil
 - Siting and construction of: utility lines
 - Access roads
 - Impervious surfaces
 - Stormwater management devices
 - Staging areas
- Protective fencing (see Figure "Protective Fencing") shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are "Forest Retention Area" or "Specimen Tree" (see Figure "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that root systems are protected from smothering, flooding, excessive wetting from de-watering operations, off-site run-off, spillage, and drainage or solutions containing materials hazardous to tree roots.
- The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, sub-contractors, or licensees.
- Foot traffic shall be kept to a minimum in the protective areas.
- All trees which are not to be preserved within fifty feet of any tree preservation areas are to be removed in a manner that will not damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.
- The general contractor shall designate a "wash out" area on-site for concrete trucks which will not drain toward a protected area.
- A pre-construction meeting shall be held with local authorities before any disturbance has taken place on site.

FOREST PROTECTION PROCEDURES - Construction Phase

Forest and tree conditions should be monitored during construction and corrective measures taken when appropriate.

- The following shall be monitored:
- Soil compaction
 - Root injury - prune and monitor; consider crown reduction
 - Limb injury - prune and monitor
 - Flooded conditions - drain and monitor; correct problem
 - Drought conditions - water and monitor; correct problem
 - Other stress signs - determine reason, correct, and monitor.

FOREST PROTECTION PROCEDURES - Post-Construction Phase

The following measures shall be taken:

- Corrective measures if damages were incurred due to negligence:
 - Stress reduction
 - Removal of dead or dying trees. This may be done only if trees pose an immediate safety hazard
- Removal of temporary structures:
 - No burial of discarded materials will occur on-site within the conservation area.
 - No open burning within 100 feet of a wooded area.
 - All temporary forest protection structures will be removed after construction.
 - Remove temporary roads by removing stone or broadcasting mulch; pre-construction elevation should be maintained.
 - Aerate compacted soil.
 - Replant disturbed sites with trees, shrubs and/or herbaceous plants.
 - Retain signs for retention areas or specimen trees.
 - A county official shall inspect the entire site.

I. BIORETENTION AREA SOIL SPECIFICATIONS

A. Planting Soil

The bioretention area shall consist of a planting soil having a composition of at least 10 to 25 percent clay and shall be of a sandy loam or loamy sand texture. Loamy soils may be utilized for the planting soil but must consist of 35% sand. In addition, the formulated planting soil shall be of uniform composition, free of stones, stumps, roots or similar objects larger than one inch, brush, or any other material or substance which may be harmful to plant growth or a hindrance to planting or maintenance operations.

The planting soil shall be free of plants or plant parts of Bermuda grass, Quack grass, Johnson grass, Mugwort, Nutcase, Poison Ivy, Canadian Thistle or others as specified.

It shall not contain toxic substances harmful to plant growth.

The planting soil shall be tested and meet the following criteria:

pH range	5.5 - 6.5
Organic matter	1.5 - 3.0%
Magnesium - Mg	35 lbs./acre
Phosphorus - P ₂ O ₅	100 lbs./acre
Potassium - K ₂ O	85 lbs./acre
Soluble salts	not to exceed 500 ppm

The following testing frequencies shall apply to the above soil constituents:

pH, Organic Matter: 1 test per 90 cubic yards, but no more than 1 test per Bioretention Area

Magnesium, Phosphorus, Potassium, Soluble Salts: 1 test per 500 cubic yards, but no less than 1 test per borrow source

One grain size analysis shall per performed per 90 cubic yards of planting soil, but no less than 1 test per Bioretention Area.

B. Mulch Layer Specifications

A mulch layer shall be provided on top of the planting soil. An acceptable mulch layer shall include shredded hardwood or shredded wood chips or other similar product approved by the Prince George's Landscape Architecture Division.

Of the approved mulch products all must be well aged, uniform in color, and free of foreign material including plant material. Well aged mulch is defined as mulch that has been stockpiled or stored for at least twelve (12) months.

C. Sand Specifications

The sand shall be free of deleterious material and rocks greater than 1 inch in diameter.

D. Compaction

Soil shall be placed in lifts less than 18 inches and lightly compacted (minimal compactive effort) by tamping with a bucket from a dozer or a backhoe.

II. BIORETENTION AREA PLANT SPECIFICATIONS

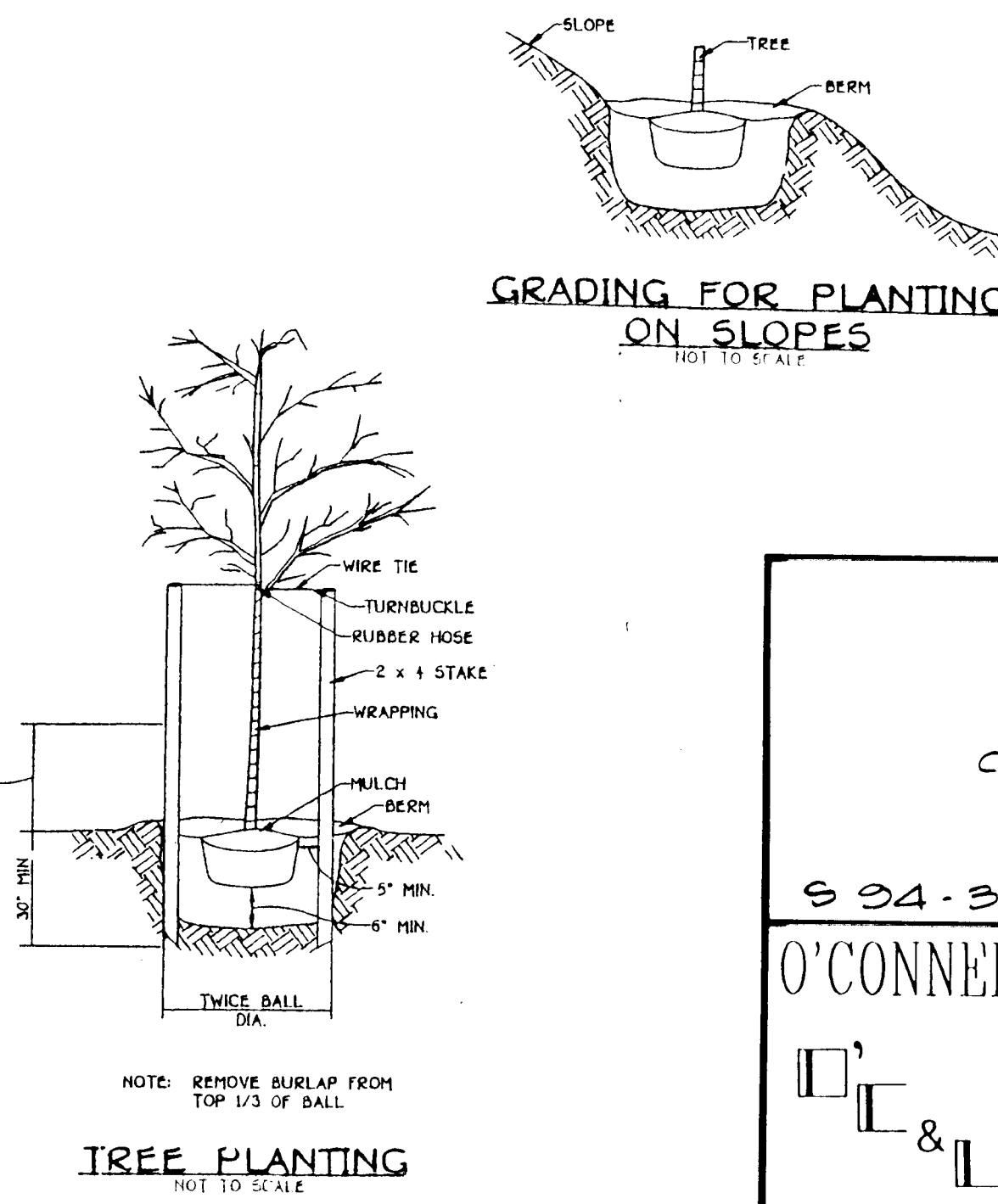
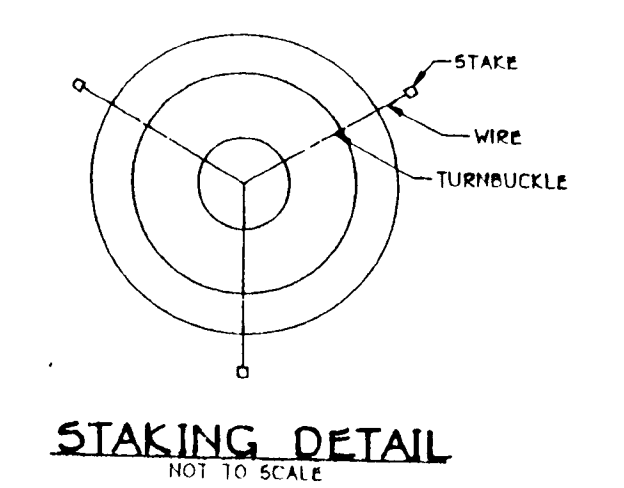
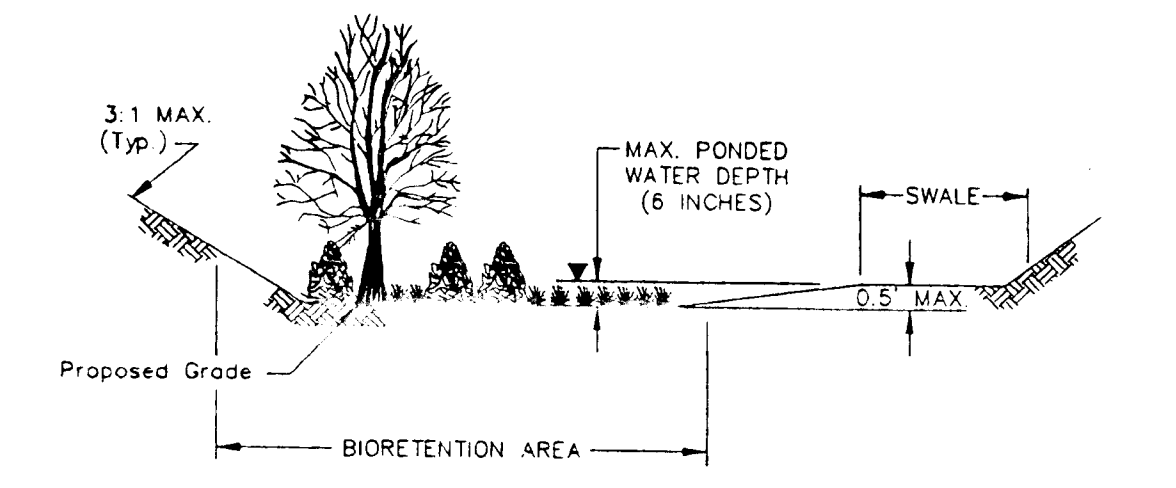
- General Planting Specifications**
- Stock of the plant material shall be kept moist during transport from the source to the job site and until planted.
 - Walls of planting pit shall be dug so that they are vertical.
 - The diameter of the planting pit must be a minimum of six inches (6") larger than the diameter of the ball of the tree.
 - The planting pit shall be deep enough to allow 1/4" of the ball to be above the existing grade. Loose soil at the bottom of the pit shall be tamped by hand.
 - The appropriate amount of fertilizer is to be placed at the bottom of the pit (see below for fertilization rates).
 - The plant shall be removed from the container and placed in the planting pit by lifting and carrying the plant by its ball (never lift by branches or trunk).
 - Set the plant straight and in the center of the pit so that the top of the ball is approximately 1/4" above the final grade.
 - Backfill planting pit with existing soil.
 - Make sure plant remains straight during backfilling procedure.
 - Never cover the top of the ball with soil. Mound soil around the exposed ball (1/4").
 - Trees shall be braced by using 2" by 2" white oak stakes. Stakes shall be placed parallel to walkways and buildings. Stakes are to be equally spaced on the outside of the tree ball. Utilizing hose and wire the tree is braced to the stakes.

- Fertilization**
- Tree and Shrub fertilizer shall be a 21 gm. tightly compressed, long lasting, slow release (2 year) fertilizer tablet with a minimum guaranteed analysis of 20-10-5:
 - For containerized trees and shrubs, place the specified fertilizer tablet(s) in the bottom of the planting pit according to the following rates:

1 gal. Container	1 ea. 21 gm. Tablets
3 gal. Container	2 ea. 21 gm. Tablets
5 gal. Container	3 ea. 21 gm. Tablets
7 gal. Container	5 ea. 21 gm. Tablets

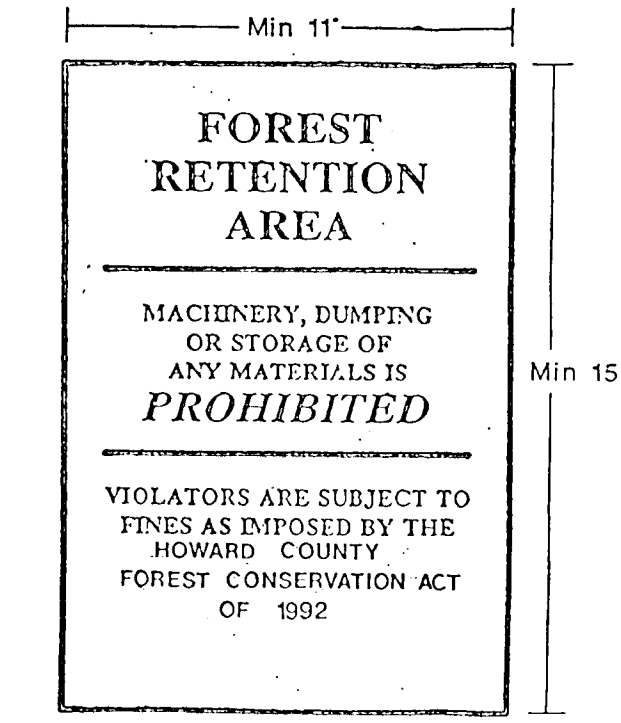
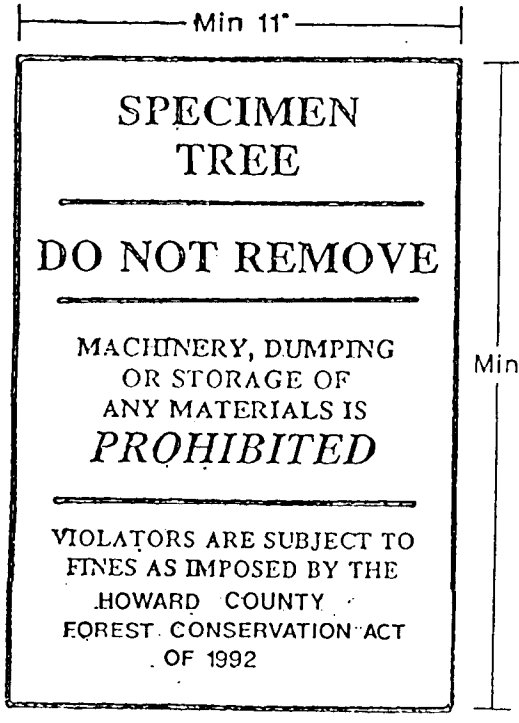
- Planting Non-Grass Ground Cover**
- The ground cover planting holes shall be dug through the mulch with one of the following: hand trowel, shovel, bulb planter, or hoe (this does not apply to grasses or legumes).
 - Before planting biodegradable pots shall be split, and non-biodegradable pots shall be removed. Root systems of all potted plants shall be split or crumbled.
 - The ground cover shall be planted so that the roots are surrounded by the soil below the mulch. Potted plants shall be set so that the top of the pot is even with the existing grade. The roots of bare root plants shall be covered to the crown.
 - The mulched and planted ground cover bed with a pre-emergent herbicide.
 - The entire ground cover bed shall be thoroughly watered.

- Planting Grass Ground Cover**
- Grasses and legume seed shall be filled into the soil to a depth of at least 2 inches by either harrowing or discing. Fertilizer shall be applied at the same rate and utilizing the same process for non-grass ground cover. Grass and legume plugs shall be planted following the non-grass ground cover planting techniques.
- Fertilizer**
- All ground covers shall be fertilized with a 10-6-4 analysis fertilizer as a wet application at the rate of 3 lbs. per 100 square feet of the bioretention area prior to planting non-grass ground cover or as part of the grass seed ground cover.



Tree Planting and Maintenance Calendar

Month	Planting	Watering	Fertilizing	Pruning	Staking	Bracing
Jan						
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						



SPRINGDALE ESTATES
F-95-163
LOTS 1-18 AND PARCEL "A" & "B"
TAX MAP 34 GRID 14 PARCEL 60
5TH ELECTION DISTRICT HOWARD COUNTY, MD.

OWNER AND DEVELOPER
HIGHLAND DEVELOPMENT CORP.
c/o RICHARD J. DEMMITT
P.O. BOX 28
CLARKSVILLE, MD 21029

SCALE AS SHOWN DATE: 10/17/96 DWG. NO. 14 OF 14
DES: MJK DRN: AT CHK: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] DATE: 10/17/96
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] DATE: 10/17/96
CHIEF, DIVISION OF PLANNING AND RESEARCH
[Signature] DATE: 10/17/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION

O'CONNELL & LAWRENCE, INC.
SURVEYORS, ENGINEERS & LAND PLANNERS
17904 Georgia Avenue, Suite 302, Olney, Maryland 20832
Tel: (301) 924-4570 • Fax: (301) 924-5872

FOREST CONSERVATION NOTES AND DETAILS
BIORETENTION NOTES
SPRINGDALE ESTATES
CLARKSVILLE (5) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

924-31 P 95-08 F 95-163

O'CONNELL & LAWRENCE, INC.
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OLNEY MARYLAND 20832
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FAX 301-924-5872

DESIGNER	NS/MJK/INA	SHEET	14
DRAWN	EFM/WA	DATE	NOV, 95
DATE	NOV, 95	OF	14
SCALE	AS SHOWN	JOB NO.	136-12

DENNIS J. LABARE, M.S., & ASSOCIATES
Environmental Consulting Services
8901 Ruston Circle
Randallstown, MD 21133

Wetland Delineations & Mitigation
Stream Assessment & Restoration
Water Quality Monitoring
Macroinvertebrate Taxonomy
Forest Stand Delineations
Forest Conservation Plans

Dennis J. Labare
Qualified Professional, MDPCA
P.F.#VA (410) 922-7474